

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

BRIGHTPLUS VENTURES LLC,

Plaintiff,

Civil Action No.: 2:22-cv-194-JRG-RSP

v.

**Jury Trial Demanded**

TCL ELECTRONICS HOLDINGS LTD.  
(F/K/A TCL MULTIMEDIA TECHNOLOGY  
HOLDINGS, LTD.); TCL INDUSTRIES  
HOLDINGS CO., LTD.; TCL INDUSTRIES  
HOLDINGS (H.K.) LIMITED; 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.

**FIRST AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff Brightplus Ventures LLC (“Brightplus” or “Plaintiff”), by way of this First Amended Complaint against Defendants TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.); TCL Industries Holdings Co., Ltd.; TCL Industries Holdings (H.K.) Limited; 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.) (collectively “TCL” or “Defendants”), alleges as follows:

**PARTIES**

1. Plaintiff Brightplus Ventures LLC is a limited liability company organized and existing under the laws of the State of Texas, having its principal place of business at 17330 Preston Road, Suite 200D, Dallas, Texas 75252.
2. On information and belief, Defendant TCL Electronics Holdings Ltd. (f/k/a TCL Multimedia Technology Holdings, Ltd.) is a corporation organized and existing under the laws of Cayman Island 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.
3. On 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.
4. On information and belief, Defendant TCL Industries Holdings (H.K.) Limited is a corporation organized and existing under the laws of Hong Kong with its principal place of business at 8th Floor, Building 22E, Phase Three, Hong Kong Science Park, Pak Shek Kok, New Territories, Hong Kong.
5. On information and belief, Defendant TTE Corporation is a corporation organized
6. 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.
7. On 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.

8. On 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.

9. On 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.

10. On 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.

11. On 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.

12. On 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.

13. On 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.

14. On 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.

15. On information and belief, Defendant TCL Technology Group Corporation (formerly known as TCL Corp.) is a corporation organized and existing under the laws of the People's Republic of China with its principal place of business at TCL Technology Building, No.17, Huifeng 3rd Road, Zhongkai High-tech Zone, Huizhou City, Guangdong, 516006, China.

16. On 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.

17. On 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.

18. Defendants form an interrelated group of companies which together comprise one of the largest makers and sellers of televisions in the world. Defendants 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

District in particular. On information and belief, Defendants (and their affiliates) share the same management, common ownership, advertising platforms, facilities, distribution chains and platforms, and accused product lines and products involving related technologies. Thus, Defendants (and their affiliates and subsidiaries) operate as a unitary business and are jointly and severally liable for the acts of patent infringement alleged herein.

19. On information and belief, Defendants do business themselves, or through their subsidiaries, affiliates, and agents, in the State of Texas and the Eastern District of Texas. Defendants placed or contributed to placing infringing products, including one or more of those specifically accused of infringement below, into the stream of commerce via established distribution channels knowing or understanding that such products would be sold and used in the United States, including in the Eastern District of Texas.

20. On information and belief, Defendants have derived substantial revenue from infringing acts in the Eastern District of Texas, including from the sale and use of these infringing products like those specifically accused of infringement below.

### **JURISDICTION AND VENUE**

21. This is an action under the patent laws of the United States, 35 U.S.C. §§ 1, et seq., for infringement by TCL of claims of U.S. Patent No. 7,690,812; U.S. Patent No. 7,872,705; U.S. Patent No. 8,177,382; U.S. Patent No. 8,294,075; U.S. Patent No. 8,330,710; U.S. Patent No. 8,941,331; U.S. Patent No. 9,605,835; U.S. Reissued Patent No. RE42,598; and U.S. Reissued Patent No. RE45,796 (collectively “the Patents-in-Suit”).

22. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1338(a).

23. TCL is subject to personal jurisdiction of this Court because, *inter alia*, on information and belief, (i) TCL, directly or through affiliates, subsidiaries, agents, or intermediaries, has committed and continues to commit acts of patent infringement in the State of Texas, including

by making, using, offering to sell, selling, and/or importing the accused products into Texas; (ii) TCL, directly or through affiliates, subsidiaries, agents, or intermediaries, purposefully supplies and directs the accused products for storage, warehousing, and sales by distributors and resellers in the State of Texas; and (iii) TCL, directly or through affiliates, subsidiaries, agents, or intermediaries, delivers its products into the stream of commerce with the expectation that they will be purchased by consumers in the State of Texas. For example, TCL's products have been sold and are available for sale in this District at retail stores, and are also available for sale and offered for sale in this District through online retailers. TCL also advertise their infringing products to consumers in this State and this District through the TCL.com website. *See, e.g.*, <https://www.tcl.com/us/en/catalog/home-theater>. In addition, or in the alternative, this Court has personal jurisdiction over TCL pursuant to Fed. R. Civ. P. 4(k)(2).

24. 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.

25. Venue is proper as to TCL in this District under 28 U.S.C. § 1391(c) because, *inter alia*, TCL is a foreign corporation.

### **BACKGROUND**

26. On April 6, 2010, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,690,812 (“the ’812 Patent”), entitled “Apparatus And Methods For Conformable Diffuse Reflectors For Solid State Lighting Devices.”

27. On January 18, 2011, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 7,872,705 (“the ’705 Patent”), entitled “LED Backlight System For LCD Displays.”

28. On May 15, 2012, the United States Patent and Trademark Office duly and lawfully

issued U.S. Patent No. 8,177,382 (“the ’382 Patent”), entitled “Apparatus And Methods For Multiplanar Optical Diffusers And Display Panels For Using The Same.”

29. On October 23, 2012, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,294,075 (“the ’075 Patent”), entitled “Solid State Luminaires For General Illumination.”

30. On December 11, 2012, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,330,710 (“the ’710 Patent”), entitled “Systems And Methods For Controlling A Solid State Lighting Panel.”

31. On January 27, 2015, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 8,941,331 (“the ’331 Patent”), entitled “Solid State Lighting Panels With Variable Voltage Boost Current Sources.”

32. On March 28, 2017, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. 9,605,835 (“the ’835 Patent”), entitled “Solid-State Luminaires For General Illumination.”

33. On August 9, 2011, the United States Patent and Trademark Office duly and lawfully issued U.S. Patent No. RE42,598 (“the ’598 Patent”), entitled “Light Emitting Diode Arrays For Direct Backlighting Of Liquid Crystal Displays.”

34. On November 10, 2015, the United States Patent and Trademark Office duly and lawfully issued U.S. Reissued Patent No. RE45,796 (“the ’796 Patent”), entitled “Light Emitting Diode Arrays For Direct Backlighting Of Liquid Crystal Displays.”

35. Brightplus is the assignee and owner of the right, title, and interest in and to the Patents-in-Suit, including the right to assert all causes of action arising under said patents and the right to any remedies for infringement of them.

36. By letters dated May 6, 2022 and May 9, 2022, Brightplus notified TCL of the existence of the Patents-in-Suit and of TCL's infringement of the Patents-in-Suit. Brightplus's letters identified exemplary infringed claims and exemplary infringing TCL products.

37. TCL has infringed and continues to infringe the Patents-in-Suit by making, using, selling, or offering for sale in the United States, or importing into the United States televisions, monitors, displays, and products with lighting unit technology claimed in the Patents-in-Suit. Attachment A to this Complaint provides a non-exhaustive listing of Accused Products. Attachment B to this Complaint provides a listing of Exhibits comprising exemplary teardown images for certain Accused Products.

**COUNT I: INFRINGEMENT OF THE '812 PATENT BY TCL**

38. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

39. On information and belief, TCL has infringed the '812 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

40. For example, on information and belief, TCL has infringed and continues to infringe at least claim 1 of the '812 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 55R646 television. The Accused Products include a solid state lighting tile. Exs. 1-6 (the TCL 55R646 includes an LED lighting tile). The Accused Products' solid state lighting tile include a substrate. Ex. 6 (the TCL 55R646 LED lighting tile is mounted on the surface of the substrate). The Accused Products' solid state lighting tile further include a solid state lighting element mounted on a surface of the substrate. Exs. 6-7 (the TCL 55R646 LED lighting tile is mounted on the surface of the substrate). The Accused Products' solid state lighting tile further include a reflector sheet on the



surface of the substrate, the reflector sheet configured to conform to a shape of a protruding feature on the tile. Exs. 5, 8-10 (the TCL 55R646 LED lighting tile includes a reflector sheet that conforms to a shape of a protruding feature on the tile, e.g., a wire interconnect, on the surface of the substrate).

41. On information and belief, TCL has induced infringement of the '812 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

42. On information and belief, TCL has infringed the '812 Patent pursuant to 35 U.S.C. § 271(g), literally or under the doctrine of equivalents, by importing into the United States or offering to sell, selling, or using within the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein which are made by a patented process claimed by the '812 Patent.

43. For example, on information and belief, TCL has infringed and continues to infringe at least claim 15 of the '812 Patent by importing into the United States or offering to sell, selling, or using within the United States the Accused Products, such as the TCL 55R646 television, that are made by a method of forming a solid state lighting device. Exs. 1-6 (making the TCL 55R646 includes forming an LED lighting device). The method of forming a solid state lighting device comprises providing a substrate of a solid state lighting tile. Ex. 6 (forming the TCL

55R646 LED lighting device includes providing a substrate of an LED lighting tile). The method of forming a solid state lighting device comprises mounting a solid state lighting element on a surface of the substrate. Exs. 6-7 (forming the TCL 55R646 LED lighting device includes mounting LEDs on the surface of the substrate). The method of forming a solid state lighting device comprises positioning a reflector sheet on the surface of the substrate, the reflector sheet configured to conform to a shape of a protruding feature on the solid state lighting tile. Exs. 5, 8-10 (forming the TCL 55R646 LED lighting device includes positioning a reflector sheet that conforms to a shape of a protruding feature on the tile, e.g., a wire interconnect, on the surface of the substrate).

44. On information and belief, TCL has committed the foregoing infringing activities without a license.

45. On information and belief, TCL knew the '812 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '812 Patent.

**COUNT II: INFRINGEMENT OF THE '705 PATENT BY TCL**

46. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

47. On information and belief, TCL has infringed the '705 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein performing a method of providing diffused light as claimed in the '705 Patent.

48. For example, on information and belief, TCL has infringed and continues to infringe at least claim 1 of the '705 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 50S446 television. The

Accused Products include a liquid crystal display (LCD) system. Exs. 63-64 (the TCL 50S446 includes an LCD system). The Accused Products' LCD system include an LCD panel. Ex. 64 (the TCL 50S446 LCD system includes an LCD panel). The Accused Products' LCD system further include at least one waveguide element comprising a plurality of light entry regions. Exs. 65-68 (the TCL 50S446 LCD system includes at least one waveguide element with light entry regions). The Accused Products' LCD system further include a first light-emitting source comprising a first plurality of LEDs arranged in a first strip and positioned to emit light into the at least one waveguide element at a first light entry region of the plurality of light entry regions. Exs. 65, 67-69 (the TCL 50S446 LCD system includes a first strip of LEDs that are positioned to emit light into the at least one waveguide element at a first light entry region). The Accused Products' LCD system further include a second light-emitting source comprising a second plurality of LEDs arranged in a second strip and positioned to emit light into the at least one waveguide element at a second light entry region of the plurality of light entry regions. Exs. 65, 67-69 (the TCL 50S446 LCD system includes a second strip of LEDs positioned to emit light into the at least one waveguide element at a second light entry region). The Accused Products' LCD system further include a common control circuit in electrical communication with at least one of the first plurality of LEDs and the second plurality of LEDs. Exs. 65, 70-71 (the TCL 50S446 LCD system includes a common control circuit connected to the first strip of LEDs on the left and the second strip of LEDs on the right).

49. On information and belief, TCL has induced infringement of the '705 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States,

the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

50. On information and belief, TCL has committed the foregoing infringing activities without a license.

51. On information and belief, TCL knew the '705 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '705 Patent.

### **COUNT III: INFRINGEMENT OF THE '382 PATENT BY TCL**

52. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

53. On information and belief, TCL has infringed the '382 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein performing a method of providing diffused light as claimed in the '382 Patent.

54. For example, on information and belief, TCL has infringed and continues to infringe at least claim 13 of the '382 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 32S21 television, which perform a method of providing diffused light. Exs. 11-15 (in the Accused Products, such as the TCL 32S21, TCL provides diffused light from solid state light emitters such as light emitting diodes (LEDs)). The method of providing diffused light of each of the Accused Products comprises emitting light from a plurality of solid state light emitters arranged in a planar configuration. Exs. 15-16 (in the Accused Products, such as the TCL 32S21, TCL emits

light from LEDs that are arranged in a planar configuration). The method of providing diffused light of each of the Accused Products comprises receiving the emitted light at a first side of a first diffusion plane that is a first distance from the plurality of solid state light emitters. Exs. 14, 17-20 (in the Accused Products, TCL receives the emitted light at a first side of a first diffusion plane that is a first distance from the LEDs, e.g., measured to be 28.80 mm in the TCL 32S21). The method of providing diffused light of each of the Accused Products comprises transmitting first diffused light from a structured refractive diffuser plate at a second side of the first diffusion plane. Exs. 14, 21-22 (in the Accused Products, such as the TCL 32S21, TCL transmits first diffused light from a structured refractive diffuser plate, e.g., a diffuser plate having consistent refractive element density across the surface, at a second side of the first diffusion plane). The method of providing diffused light of each of the Accused Products comprises receiving the first diffused light from the first diffusion plane at a first side of a second diffusion plane that is a second distance from the plurality of solid state light emitters. Exs. 14, 20, 23 (in the Accused Products, TCL receives the first diffused light from the first diffusion plane at a first side of a second diffusion plane located on top of the first diffusion plane that is a second distance from the LEDs, e.g., measured to be 30.17 mm (first distance discussed above (28.80 mm) + diffuser plate thickness (1.37 mm)) in the TCL 32S21). The method of providing diffused light of each of the Accused Products comprises transmitting second diffused light from a second side of the second diffusion plane. Exs. 14, 24 (in the Accused Products, such as the TCL 32S21, TCL transmits second diffused light from a second side of the second diffusion plane located on top of the first diffusion plane). The plurality of solid state light emitters of each of the Accused Products comprise a third distance between adjacent ones of the plurality of solid state light emitters, wherein the first distance is a function of the third distance. Ex. 20, 25 (in the Accused

Products, the LEDs comprise a third distance between adjacent LEDs, e.g., measured to be 58.62 mm in the TCL 32S21, wherein the first distance (measured to be 30.17 mm) is a function of the third distance (measured to be 58.62 mm); the third distance is roughly 2 times the length of the first distance).

55. On information and belief, TCL has induced infringement of the '382 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

56. On information and belief, TCL has committed the foregoing infringing activities without a license.

57. On information and belief, TCL knew the '382 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '382 Patent.

#### **COUNT IV: INFRINGEMENT OF THE '075 PATENT BY TCL**

58. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

59. On information and belief, TCL has infringed the '075 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

60. For example, on information and belief, TCL has infringed and continues to infringe at

least claim 1 of the '075 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 40S330 television. The Accused Products include a lighting panel. Exs. 26-30 (the TCL 40S330 includes a lighting panel, i.e., a backlighting panel). The Accused Products' lighting panel include at least one substrate having a first side parallel to a principal plane of the lighting panel. Exs. 31-32 (the TCL 40S330 lighting panel includes at least one substrate that is parallel to the plane of the lighting panel). The Accused Products' lighting panel further include a plurality of solid state lighting devices arranged on the first side of the at least one substrate and configured to emit light. Exs. 31-32 (the TCL 40S330 lighting panel includes solid state lighting devices, e.g., light emitting diodes (LEDs), arranged on the substrate and are configured to emit light). The Accused Products' lighting panel further include a reflector sheet on the first side of the at least one substrate. Exs. 30-31 (the TCL 40S330 lighting panel includes a reflector sheet on the substrate). The Accused Products' lighting panel further include a brightness enhancement film on the reflector sheet, wherein the reflector sheet is arranged between the at least one substrate and the brightness enhancement film and the brightness enhancement film is configured to preferentially emit light having a first orientation from the lighting panel and to preferentially reflect light having a second orientation, different from the first orientation, back into the lighting panel. Exs. 29, 33-36 (the TCL 40S330 lighting panel includes a brightness enhancement film on top of the reflector sheet which is on top of the substrate; the TCL 40S330 lighting panel's brightness enhancement film(s) are configured to preferentially emit light having a first orientation from the lighting panel and to preferentially reflect light having a second orientation, different from the first orientation, back into the lighting panel as recycled light). The Accused Products' lighting panel further include a diffuser sheet between the reflector sheet and the

brightness enhancement film, wherein the reflector sheet, the diffuser sheet and brightness enhancement film extend and are arranged parallel to the principal plane of the lighting panel.

Exs. 29, 33 (the TCL 40S330 lighting panel includes a diffuser sheet between the reflector sheet and the brightness enhancement film(s); the diffuser sheet and the brightness enhancement film(s) extend across and are parallel to the plane of the lighting panel).

61. On information and belief, TCL has induced infringement of the '075 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

62. On information and belief, TCL has committed the foregoing infringing activities without a license.

63. On information and belief, TCL knew the '075 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '075 Patent.

**COUNT V: INFRINGEMENT OF THE '710 PATENT BY TCL**

64. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

65. On information and belief, TCL has infringed the '710 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.



66. For example, on information and belief, TCL has infringed and continues to infringe at least claim 1 of the '710 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 55R635 television. The Accused Products include a lighting system. Exs. 37-39 (the TCL 55R635 includes a lighting system, i.e., a backlighting system). The Accused Products' lighting system include a plurality of strings of solid state lighting devices arranged in a first direction and positioned at intervals in at least one second direction. Ex. 39-40 (the TCL 55R635 lighting system includes strings of solid state lighting devices, e.g., light emitting diodes (LEDs), arranged in a first direction, e.g., laterally, and positioned at intervals in at least one second direction, e.g., vertically). The Accused Products' lighting system further include a current supply circuit configured to selectively supply a plurality of on-state drive currents to the plurality of strings responsive to a plurality of control signals. Ex. 41, Ex. 42 at 1, 2, 5, Ex. 43 (the TCL 55R635 lighting system includes a current supply circuit configured to selectively supply a plurality of on-state drive currents to the LED strings in response to a plurality of control signals). The Accused Products' lighting system further include a control system configured to receive a user input and to selectively provide control signals to the current supply circuit responsive to the user input to selectively drive the plurality of strings. Ex. 42 at 1, 2, Exs. 44-47 (the TCL 55R635 lighting system includes a control system configured to receive a user input, such as a user input image to display, and to selectively provide control signals to the current supply circuit in response to the user input to selectively drive the LED strings). The control system of the Accused Products' lighting system further includes firing logic, configured to determine a firing order of the plurality of strings. Ex. 42 at 1, Exs. 44-45 (the TCL 55R635 control system further includes firing logic configured to determine a firing order of the various LED strings).

67. On information and belief, TCL has induced infringement of the '710 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

68. On information and belief, TCL has committed the foregoing infringing activities without a license.

69. On information and belief, TCL knew the '710 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '710 Patent.

**COUNT VI: INFRINGEMENT OF THE '331 PATENT BY TCL**

70. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

71. On information and belief, TCL has infringed the '331 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

72. For example, on information and belief, TCL has infringed and continues to infringe at least claim 17 of the '331 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 50S546 television. The Accused Products include a lighting system. Exs. 48-51 (the TCL 50S546 includes a lighting system, i.e., a backlighting system). The Accused Products' lighting system include a

lighting panel including at least first and second strings of solid state lighting devices that are respectively configured to emit at least a first light and a second light, respectively. Exs. 51-52 (the TCL 50S546 lighting system includes a lighting panel including at least 2 strings of solid state lighting devices, e.g., light emitting diodes (LEDs), that are respectively configured to emit at least a first and second light that vary in brightness). The Accused Products' lighting system further include at least first and second current supply circuits coupled to the at least first and second strings of solid state lighting devices, respectively, and configured to supply an on-state drive currents to a respective one of the first and second strings of solid state lighting devices. Ex. 42 at 1, 2, 5, Exs. 52-55 (the TCL 50S546 lighting system includes at least 2 current supply circuits respectively coupled to the LED strings respectively configured to supply on-state drive currents to one of the LED strings). The Accused Products' lighting system further include a pulse width modulation (PWM) controller that is coupled to the first current supply circuit and the second current supply circuit, a first PWM control signal and a second PWM control signal that are supplied to the each of the at least first and second strings. Ex. 42 at 1, 2, 4, Exs. 52, 55 (the TCL 50S546 lighting system includes a PWM controller that is coupled to the first and second current supply circuit, a first and second PWM control signal that are supplied to each of the LED strings).

73. On information and belief, TCL has induced infringement of the '331 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing

materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

74. On information and belief, TCL has committed the foregoing infringing activities without a license.

75. On information and belief, TCL knew the '331 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '331 Patent.

**COUNT VII: INFRINGEMENT OF THE '835 PATENT BY TCL**

76. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

77. On information and belief, TCL has infringed the '835 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

78. For example, on information and belief, TCL has infringed and continues to infringe at least claim 1 of the '835 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 32S21 television. The Accused Products include a lighting panel. Exs. 11-15 (the TCL 32S21 includes a lighting panel, i.e., a backlighting panel). The Accused Products' lighting panel include at least one substrate having a first side parallel to a principal plane of the lighting panel. Ex. 16 (the TCL 32S21 lighting panel includes at least one substrate that is parallel to the plane of the lighting panel). The Accused Products' lighting panel further include a plurality of solid state lighting devices arranged on the first side of the at least one substrate and configured to emit light. Ex. 16 (the TCL 32S21 lighting panel includes solid state lighting devices, e.g., light emitting diodes (LEDs), arranged on the substrate and are configured to emit light). The Accused Products'

lighting panel further include a reflector on the first side of the at least one substrate. Exs. 15-16 (the TCL 32S21 lighting panel includes a reflector sheet on the substrate). The Accused Products' lighting panel further include a brightness enhancement film on the reflector, wherein the reflector is arranged between the at least one substrate and the brightness enhancement film and the brightness enhancement film is configured to preferentially emit light having a first orientation from the lighting panel and to preferentially reflect light having a second orientation, different from the first orientation, back into the lighting panel. Exs. 14, 35-36, 56 (the TCL 32S21 lighting panel includes a brightness enhancement film on top of the reflector sheet which is on top of the substrate; the TCL 32S21 lighting panel's brightness enhancement film(s) are configured to preferentially emit light having a first orientation from the lighting panel and to preferentially reflect light having a second orientation, different from the first orientation, back into the lighting panel as recycled light). The Accused Products' lighting panel further include a generally planar diffuser sheet between the reflector and the brightness enhancement film, wherein the light having the second orientation that is reflected back into the lighting panel is recycled within at least the diffuser sheet. Exs. 14, 35-36, 56 (the TCL 32S21 lighting panel includes a diffuser sheet between the reflector sheet and the brightness enhancement film(s) wherein some light is reflected and recycled back into the lighting panel through the diffuser sheet).

79. On information and belief, TCL has induced infringement of the '835 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated

lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

80. On information and belief, TCL has committed the foregoing infringing activities without a license.

81. On information and belief, TCL knew the '835 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '835 Patent.

**COUNT VIII: INFRINGEMENT OF THE '598 PATENT BY TCL**

82. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

83. On information and belief, TCL has infringed the '598 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

84. For example, on information and belief, TCL has infringed and continues to infringe at least claim 43 of the '598 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 55R635 television. The Accused Products include a display panel for a flat panel display. Exs. 37-38, 57 (the TCL 55R635 is a flat panel liquid crystal display (LCD)). The Accused Products' display panel include a front face comprising a planar array of liquid crystal display (LCD) devices. Ex. 57 (the TCL 55R635 display panel includes a planar array of LCD devices). The Accused Products' display panel further include a back face comprising at least one solid block including first and second opposing faces that extend parallel to the array of LCD devices, wherein the first face is facing toward the array of LCD devices and the second face is facing away from the array of

LCD devices. Exs. 39, 47 (the TCL 55R635 display panel includes a lighting unit that contains a solid block parallel to the array of LCD devices with a face facing toward the LCD devices and a face facing away from the LCD devices). The Accused Products' display panel further include a plurality of LED devices mounted on the first face. Ex. 39-40, 58 (the TCL 55R635 display panel includes light emitting diodes (LEDs) mounted on the face facing the LCD devices of the solid block). The at least one solid block of the Accused Products' display panel includes a plurality of solid block tiles that are arranged in an array that is congruent to the planar array of LCD devices. Ex. 39-40, 59 (the solid block of the TCL 55R635 display panel includes solid block tiles arranged in an array that is congruent, e.g., in harmony with, the LCD devices).

85. On information and belief, TCL has induced infringement of the '598 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

86. On information and belief, TCL has committed the foregoing infringing activities without a license.

87. On information and belief, TCL knew the '598 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '598 Patent.

**COUNT IX: INFRINGEMENT OF THE '796 PATENT BY TCL**

88. Plaintiff incorporates the preceding paragraphs as if fully set forth herein.

89. On information and belief, TCL has infringed the '796 Patent pursuant to 35 U.S.C. § 271(a), literally or under the doctrine of equivalents, by making, using, offering to sell, selling in the United States or importing into the United States the Accused Products and all other substantially similar displays and/or lighting units contained therein.

90. For example, on information and belief, TCL has infringed and continues to infringe at least claim 37 of the '796 Patent by making, using, offering to sell, selling in the United States, or importing into the United States the Accused Products, such as the TCL 55R646 television. The Accused Products include a flat panel. Exs. 1-3 (the TCL 55R646 is a flat panel liquid crystal display (LCD)). The Accused Products' flat panel include a plurality of solid metal block tiles, a respective one of which includes first and second opposing faces and four ends therebetween, the plurality of solid metal block tiles being connected end-to-end in the flat panel, the plurality of solid metal block tiles including mating surfaces therebetween. Exs. 6, 60-62 (the TCL 55R646 flat panel includes solid metal block tiles with 2 opposing sides and 4 edges connected end-to-end to the flat panel; the solid metal block tiles include mating surfaces on the edges of the block tiles). The Accused Products' flat panel further include a plurality of light emitting diodes (LEDs), a respective one of which is mounted on the first face of a respective solid metal block tile in the flat panel. Exs. 6, 8, 60 (the TCL 55R646 flat panel includes LEDs mounted on the face of a solid metal block tile facing towards the display panel).

91. On information and belief, TCL has induced infringement of the '796 Patent pursuant to 35 U.S.C. § 271(b), by actively and knowingly inducing, directing, causing, and encouraging others, including, but not limited to, its partners, resellers, distributors, customers, and end users, to make, use, sell, and/or offer to sell in the United States, and/or import into the United States, the Accused Products by, among other things, providing the accused products and incorporated



lighting unit technology, specifications, instructions, manuals, advertisements, marketing materials, and technical assistance relating to the installation, set up, use, operation, and maintenance of said products.

92. On information and belief, TCL has committed the foregoing infringing activities without a license.

93. On information and belief, TCL knew the '796 Patent existed and knew of exemplary infringing TCL products while committing the foregoing infringing acts thereby willfully, wantonly and deliberately infringing the '796 Patent.

**PRAYER FOR RELIEF**

WHEREFORE, Brightplus prays for judgment in its favor against TCL for the following relief:

- A. Entry of judgment in favor of Brightplus against TCL on all counts;
- B. Entry of judgment that TCL has infringed the Patents-in-Suit;
- C. Entry of judgment that TCL's infringement of the Patents-in-Suit has been willful;
- D. An order permanently enjoining TCL from infringing the Patents-in-Suit;
- E. Award of compensatory damages adequate to compensate Brightplus for TCL's infringement of the Patents-in-Suit, in no event less than a reasonable royalty trebled as provided by 35 U.S.C. § 284;
- F. Award of reasonable attorneys' fees and expenses against TCL pursuant to 35 U.S.C. § 285;
- G. Brightplus's costs;
- H. Pre-judgment and post-judgment interest on Brightplus's award; and
- I. All such other and further relief as the Court deems just or equitable.

**DEMAND FOR JURY TRIAL**

Pursuant to Rule 38 of the Fed. R. Civ. Proc., Plaintiff hereby demands trial by jury in this action of all claims so triable.

Dated: November 3, 2022

/s/ Dmitry Kheyfits

---

Dmitry Kheyfits  
dkheyfits@kblit.com  
Brandon G. Moore  
bmoore@kblit.com  
KHEYFITS BELENKY LLP  
12600 Hill Country Blvd, Suite R-275  
Austin, TX 78738  
Tel: 737-228-1838  
Fax: 737-228-1843

Andrey Belenky  
abelenky@kblit.com  
Hanna G. Cohen  
hgcohen@kblit.com  
KHEYFITS BELENKY LLP  
80 Broad Street, 5th Floor  
New York, NY 10005  
Tel: 212-203-5399  
Fax: 212-203-6445

*Attorneys for Plaintiff  
Brightplus Ventures LLC*

**CERTIFICATE OF SERVICE**

The undersigned certifies that all counsel of record who have consented to electronic service are being served with a copy of this document via the Court's CM/ECF system pursuant to Local Rule CV-5(a)(3) on November 3, 2022.

*/s/ Dmitry Kheyfits*

---

Dmitry Kheyfits