

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

PHENIX LONGHORN LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD.,
SAMSUNG DISPLAY CO., LTD.,
SAMSUNG MEXICANA S.A. DE C.V., and
SAMSUNG ELECTRONICS AMERICA,
INC.,

Defendants.

CIVIL ACTION NO. 2:24-CV-01077

JURY TRIAL DEMANDED

PLAINTIFF'S ORIGINAL COMPLAINT

Plaintiff Phenix Longhorn, LLC (“Phenix”) files this Complaint for infringement of U.S. Patent No. 7,233,305 (“the ’305 Patent”) and U.S. Patent No. 7,557,788 (“the ’788 Patent”) (collectively, the “Asserted Patents”) against Samsung Electronics Co., Ltd. (“Samsung Electronics”), Samsung Display Co., Ltd. (“Samsung Display”), Samsung Mexicana S.A. de C.V. (“SAMEX”) and Samsung Electronics America, Inc. (“Samsung America”) (collectively, “Samsung” or “Defendants”) and alleges as follows:

NATURE OF ACTION

1. This is a patent infringement action to remedy Defendants’ infringement of the Asserted Patents under the Patent Laws of the United States, 35 U.S.C. § 1 *et seq.*
2. Phenix seeks monetary damages under 35 U.S.C. § 281 *et seq.*

THE PARTIES

3. Phenix is a limited liability company organized and existing under the laws of the State of Texas. Phenix maintains a registered agent and office located at 107 Austin Street, Martindale, Texas 78655.

4. On information and belief, Defendant Samsung Electronics is a company incorporated under the laws of the Republic of Korea (Korea), with its principal place of business located at 129, Samsung-ro, Yeongtong-gu, Suwon, Gyeonggi-do, Korea. The Republic of Korea is a signatory to the Hague Service Convention, and Samsung Electronics may be served through the Central Authority in that country.

5. On information and belief, Defendant Samsung Electronics is a multinational electronics and information technology company that is the flagship of the Samsung Group. On information and belief, the Samsung Group is a private Korean conglomerate comprising numerous affiliated businesses located in Korea and across the globe. On information and belief, the Samsung Group is the largest Korean *chaebol* (business conglomerate). On information and belief, Samsung Electronics accounts for most of the Samsung Group's revenue. On information and belief, Samsung Electronics, as the controlling company, consolidates 232 subsidiaries in its financial statements, including Defendants Samsung Display, Samsung America and SAMEX.

6. On information and belief, Samsung Electronics prepares financial statements in accordance with Korean IFRS 1110 Consolidated Financial Statements. In notes to the financial statements for years ending December 31, 2022 and 2021, Samsung Electronics, referring to itself as "the Company," admits the following:

Subsidiaries are all entities (including the special purpose entities) over which the Company has control. The Company controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Consolidation of a subsidiary begins from the date the Company obtains control of

a subsidiary and ceases when the Company loses control of the subsidiary.

7. On information and belief, Defendant Samsung Display is a company incorporated under the laws of Korea, with its principal place of business located at 1 Samsung-ro Giheung-Gu, Yongin-Si Gyeonggi-do, Korea. On information and belief, the percentage of ownership of Samsung Display by Samsung Electronics is eighty-four and eight-tenths of one percent (84.8%). The Republic of Korea is a signatory to the Hague Service Convention, and Samsung Display may be served through the Central Authority in that country.

8. On information and belief, the predecessor to Samsung Display was S-LCD Corporation (“S-LCD”), a joint venture between Samsung Electronics (51% share) and Sony Corporation (49% share), established in April 2004. On information and belief, in January 2012, Samsung Electronics purchased the shares of Sony Corporation, and Samsung Display was established on April 1, 2012, and launched on July 1, 2012, by merging S-LCD and Samsung Mobile Display. On information and belief, on or about March 2024, Samsung Display distributed dividends to Samsung Electronics in the amount of 4.3 billion U.S. dollars.

9. On information and belief, Defendant SAMEX is a company organized under the laws of the United Mexican States (Mexico), with its principal place of business located at Blvd. Los Olivos No.11109, Parque Industrial, El Florido, 22860 Tijuana, Baja California, Mexico. On information and belief, the percentage of ownership of SAMEX by Samsung Electronics is one hundred percent (100%). Mexico is a signatory to the Hague Service Convention, and SAMEX may be served through the Central Authority in that country.

10. On information and belief, Defendant Samsung America is a company organized under the laws of the State of New York, with a principal place of business at 6625 Excellence Way, Plano, Texas 75023. On information and belief, the percentage of ownership of Samsung

America by Samsung Electronics is one hundred percent (100%). On information and belief, Defendant Samsung Display does business in the State of Texas as a registered foreign for-profit corporation, Texas Secretary of State File Number 11028006. Defendant Samsung America may be served with process through its registered agent, the CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201.

11. Samsung makes, uses, sells, and/or offers to sell in, and/or imports into, the United States products that infringe one or more claims of the Asserted Patents (“the Accused Products”).

12. On information and belief, Defendants Samsung Electronics, Samsung Display, SAMEX and Samsung America together form a tightly woven conglomerate controlled by Samsung Electronics and functioning together as an integrated organization and a single business enterprise in the design, development, manufacture, importation and sale of the Accused Products.

13. On information and belief, SAMEX manufactures, sells and facilitates transport of the Accused Products to Samsung entities or their agents located in the United States. On information and belief, either SAMEX or one of its agents has requested confidential treatment of shipping records under 19 C.F.R. § 103.31(d)(1). On information and belief, SAMEX has received approval for confidential treatment of transport manifests from U.S. Customs and Border Protection (CBP), thereby masking the distribution chain of the products manufactured by SAMEX destined for the United States.

14. On information and belief, Samsung America distributes, sells and/or imports the Accused Products made by SAMEX for distribution and/or sale throughout the United States.

15. On information and belief, Samsung Electronics provided a debt guarantee to Samsung America of \$1,278,000,000, from April 16, 2023, through December 16, 2024.

16. On information and belief, Samsung Electronics provided a debt guarantee to SAMEX of \$5,000,000, from December 17, 2023, through December 16, 2024.

17. On information and belief, in 2022 Samsung Electronics announced that it would be investing an additional \$500 million in production facilities in Mexico, including in its SAMEX assembly plant in Tijuana.

18. On information and belief, SAMEX manufactures around 19 million LCD televisions annually at its Tijuana assembly plant. On information and belief, SAMEX television sets are marketed and sold primarily to the consumer marketplace in the United States, including in this District.

19. On information and belief, SAMEX also manufactures monitors. On information and belief, SAMEX monitors are similar to television sets but lacking a tuner and/or speakers. Monitors may be used with computers, medical equipment and visual conferencing equipment, for example. On information and belief, SAMEX monitors sets are marketed and sold primarily to the professional and business marketplace in the United States, including in this District.

20. On information and belief, SAMEX also manufactures displays. On information and belief, displays are intended to be powered on for long periods of time and project a constant or almost-constant image and are similar to television sets but lacking a tuner and/or speaker. Displays may be used at transport hubs and restaurants, for example. On information and belief, SAMEX displays are marketed and sold primarily to the commercial marketplace in the United States, including in this District.

21. The specific infringing SAMEX television sets, monitors and displays imported into the United States are collectively referred to herein as the Accused Products, as further described in this Complaint below.

22. On information and belief, various affiliates of the Samsung Group, including Defendants Samsung Electronics and Samsung Display, cooperate, to design, develop and supply components for the Accused Products for assembly and mass production by SAMEX to be then shipped to and sold by Samsung America.

23. On information and belief, the Defendants together manage, operate and coordinate an established multi-national distribution channel destined for the United States, knowing that SAMEX manufactures the Accused Products in Mexico and places them in the stream of commerce to be imported into the United States by Samsung America and SAMEX (among others), where they are then stored at, and distributed from, distribution centers in the United States.

24. The Accused Products are sold and/or intended for sale throughout the United States, including the State of Texas and the Eastern District of Texas (“this District”).

25. On information and belief, Defendants have placed or contribute to placing Accused 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 will be sold and used in the United States, including in this District.

26. On information and belief, Defendants have derived substantial revenue from infringing acts in this District, including from the sale and use of these Accused Products like those specifically accused of infringement below.

27. Defendants are properly joined under 35 U.S.C. § 299(a)(2) because Defendants, through their own acts and/or through the acts of each other Defendant acting as its representative, alter ego, or agent, make, use, sell, and/or offer to sell in, and/or import into the United States the Accused Products, such that questions of fact will arise that are common to all Defendants.

JURISDICTION AND VENUE

28. This is a civil action for patent infringement arising under the Patent Laws of the United States, 35 U.S.C. § 1, *et seq.*, including §§ 271 and 281-285.

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

30. Venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1400, 1391(b) and (c) because Defendants are subject to personal jurisdiction in this District and have committed acts of infringement in this District. Defendants, through their own acts and/or through the acts of others acting as their representative, alter ego, or agent, make, use, sell, and/or offer to sell Accused Products within this District and/or import Accused Products into this District, have a continuing presence within the District, and have the requisite minimum contacts with the District such that this venue is a fair and reasonable one. On information and belief, Defendants have transacted, and at the time of the filing of the Complaint, are continuing to transact business within this District.

31. Venue is proper as to Defendant Samsung America because it has a regular and established place of business in this District located at 6625 Excellence Way, Plano, Texas 75023.

32. Defendants Samsung Electronics, Samsung Display and SAMEX are foreign corporations and jurisdiction and venue is proper in any federal district, including this District, under 28 U.S.C. § 1391(c)(3).

33. Personal jurisdiction exists generally over the Defendants because each has sufficient minimum contacts with the forum as a result of business conducted within the State of Texas and the Eastern District of Texas.

34. Personal jurisdiction exists over Defendants because they, directly or through affiliates, agents, subsidiaries, or intermediaries, make, use, sell, offer for sale, import, advertise,

make available, and/or market products within the State of Texas and this District that infringe one or more claims of the Asserted Patents, as alleged more particularly below.

35. On information and belief, Defendant Samsung Electronics has significant and continuing contacts with the State of Texas, including through its wholly owned subsidiaries Samsung America and Samsung Austin Semiconductor, Inc. (“SAS”), the latter maintaining an active registration in the State of Texas under registration filing number 800089846. On information and belief, Samsung Electronics has invested billions of dollars in the State of Texas through its SAS semiconductor fabrication plants in Austin and Taylor which employ thousands of Texans and through Samsung America with its offices in Plano.

36. On information and belief, this Court has jurisdiction over Defendants by virtue of their systematic and continuous contacts with this jurisdiction, as alleged herein, as well as because the injury to Phenix occurred in the State of Texas and the claim for relief possessed by Phenix against Defendants for this injury arose in the State of Texas. On information and belief, Defendants have purposely availed themselves of the privileges of conducting business within the State of Texas, such business including but not limited to: (i) at least a portion of the infringements alleged herein; (ii) purposely and voluntarily placing one or more Accused Products into the stream of commerce through established distribution channels with the expectation, knowledge, and intent that those products be sold throughout the United States, including the State of Texas and this District; (iii) regularly transacting or soliciting business, engaging in other persistent courses of conduct, or deriving or attempting to derive substantial revenue and financial benefits from goods and services provided to individuals in the State of Texas and in this District. Moreover, because Defendants have purposely directed their activities toward the State of Texas which give rise to the causes of action asserted by Plaintiff, the exercise of personal jurisdiction by courts within the

State of Texas is fair and reasonable. Thus, Defendants are subject to the Court's specific and general jurisdiction pursuant to due process and the Texas Long Arm Statute.

37. Personal jurisdiction exists over Defendant Samsung America because since 2019 it has maintained a principal place of business in this District. On information and belief, Samsung America occupies a 216,000 square foot office space in Plano. On information and belief, according to Plano's Economic Development website, Samsung America ranks as the fourteenth largest employer in Plano, based on the number of employees. *See* planotexas.org/180/Leading-Employers, last visited November 20, 2024. On information and belief, as of Q4 2024, Samsung America employs 1,802 people in Plano. Samsung America has filed Texas Franchise Tax Public Information Reports (Form 05-102) with the Comptroller with taxpayer number 11329511536 and, thereby, has self-declared that Samsung America has a nexus with the State of Texas. On information and belief, Samsung America distributes the Accused Products and enters into agreements to sell the Accused Products in this District.

38. Personal jurisdiction exists over Defendants Samsung Electronics, Samsung Display and SAMEX because they work jointly, directly or through affiliates, agents, subsidiaries, or intermediaries, to make, to have made, to use, to sell, to offer for sale, to import, to advertise, to make available, and/or to market products within the State of Texas and this District that infringe one or more claims of the Asserted Patents, as alleged more particularly below. On information and belief, Samsung Electronics and Samsung Display designed and developed the Accused Products, in whole or in part, that are manufactured by SAMEX. SAMEX has manufactured the Accused Products specifically for sales destined for the United States, including the State of Texas and this District. Samsung Electronics, Samsung Display and SAMEX also have purposefully and

voluntarily placed one or more of the Accused Products into the stream of commerce with the awareness and/or intent that these products will be purchased by consumers in this District.

39. SAMEX was established in Tijuana, Baja California, Mexico, to take advantage of Tijuana's proximity to the U.S. border, as described particularly below. Samsung-brand televisions, including those made by SAMEX, are designed to conform, and do conform, with U.S. technical specifications, including FCC regulations, as described particularly below. Samsung Electronics, Samsung Display and SAMEX have knowingly and purposefully sent the Accused Products into the stream of commerce for sale within this District through an established distribution channel. The SAMEX factory in Tijuana operates with the expectation that millions of the televisions it makes will be shipped into the U.S. each year, as described particularly below. Samsung Electronics, Samsung Display and SAMEX have knowingly and intentionally placed the Accused Products into the stream of commerce with the awareness and intent that the Accused Products will be purchased by consumers in the United States, including in this District, by assembling, manufacturing, testing, distributing, and/or selling televisions designed to conform, and that do conform, with U.S. technical specifications, as described particularly below. Samsung Electronics, Samsung Display and SAMEX knowingly and intentionally induced others to directly infringe when SAMEX assembles, manufactures, and sells for importation the Accused Products intended for sale, and sold, in the United States, including in this District, as described particularly below. Samsung Electronics, Samsung Display and SAMEX knowingly and intentionally induce others to directly infringe when SAMEX imports, or causes others to import, Accused Products into and within the United States, including in this District, through an established distribution channel by which Accused Products enter and/or have entered the United States, including this District, as

described particularly below. The Accused Products have been and continue to be purchased by consumers in this District.

40. On information and belief, the Accused Products, including televisions, monitors and displays, are sold in the State of Texas, including this District, at numerous and well-known retail outlets, including Target, Wal-Mart, Costco, Best Buy and Sam's Club.

41. On information and belief, Target has a store in this District at 4200 S. Medford Drive, Lufkin, Texas 75901.

42. On information and belief, Wal-Mart has a store in this District at 6801 S. Broadway Avenue, Tyler, Texas 75703.

43. On information and belief, Costco has a store in this District at 5620 W. University Drive, Prosper, Texas 75078.

44. On information and belief, Best Buy has a store in this District at 5514 S. Broadway Avenue, Tyler, Texas 75703.

45. On information and belief, Sam's Club has a store in this District at 3310 N. Fourth Street, Longview, Texas 75605.

46. On information and belief, Samsung America sells directly or indirectly to retailers, including, but not limited to, Target, Wal-Mart, Costco, Best Buy and Sam's Club. On information and belief, Samsung America is responsible for the supplying retailers with the Accused Products designed and developed by Samsung Electronics, Samsung Display and manufactured by SAMEX.

47. On information and belief, Samsung America owns and operates Samsung.com, an Internet website for placing orders to purchase Samsung products, including the Accused Products, said website being accessible to buyers in the State of Texas and this District.

THE ASSERTED PATENTS

48. The USPTO duly issued the '305 Patent, entitled "Gamma Reference Voltage Generator," on June 19, 2007, after full and fair examination of Application No. 10/746,333, which was filed on December 23, 2003, and claims priority to Provisional Application No. 60/477,680, which was filed on June 11, 2003. Phenix is the owner, by assignment, of all rights, title, and interest in the '305 Patent. A true and accurate copy of the '305 Patent is attached as **Exhibit A**.

49. The '788 Patent is a continuation of the '305 Patent. The USPTO duly issued the '788 Patent, entitled "Gamma Reference Voltage Generator," on July 7, 2009, after full and fair examination of Application No. 11/743,014, which was filed on May 1, 2007. Phenix is the owner, by assignment, of all rights, title, and interest in the '788 Patent. A true and accurate copy of the '788 Patent is attached as **Exhibit B**.

BACKGROUND FACTS

50. The dominant and most valuable component of televisions, monitors and displays is "the LCD panel." The LCD panel itself is made of two major components: the optical display viewed by the user, also known as "the LCD display," and the electronic circuits that control the image on the LCD display.¹ One of the most important electronic circuits that control the image on the LCD display is the gamma correction circuitry.

51. The Asserted Patents are directed to LCD panels that use electronics to implement gamma correction reference voltages sent to an LCD display to improve the picture seen by a user.

¹ The terms "LCD" and "LED" are often used interchangeably when referring to television sets. LCD displays use a backlight technology referred to as cold cathode fluorescent lamps (CCFL), while LED displays use light-emitting diodes (LEDs) for backlighting, the latter being a more recent development. Today, organic light-emitting diodes (OLED) are being used in television sets. This Complaint accuses television, monitor and display products without regard to the backlighting technology implemented by the Defendants.

On information and belief, the Accused Products are designed and developed by one or more of the Defendants using the LCD panel components, supplied in whole or in part from contracted suppliers.

52. The gamma correction circuitry is designed to work together with another specialized device known in the industry as a “source driver” or a “column driver.”² A column driver is the name given to another integrated circuit that can typically be found on the LCD display itself. The gamma reference control inventions pioneered by the inventors have contributed to innovations in manufacturing that brought us the high-quality and low-cost LCD television sets we have today. The inventors pioneered a dedicated integrated circuit, known as a programmable gamma integrated circuit or “P-gamma chip” and a cost-saving process for calibration of the LCD television picture that compensates for panel-to-panel manufacturing variations.

53. The increase in quality that started through the use of the P-gamma chip allowed television manufacturers to save on labor costs and the cost of more expensive components. Furthermore, as discussed below, the advent of the P-gamma chip allowed manufacturers to automate the calibration of LCD Panels to achieve better quality.

54. The co-inventors of the Asserted Patents, Richard V. Orlando and Trevor A. Blyth, founded the semiconductor company Alta Analog, Inc. (“Alta”) in Silicon Valley in March 2002. Alta pioneered, designed, made and sold the first P-gamma chip capable of generating two or more gamma reference voltage display conditions for LCD televisions, monitors and displays, using an integrated circuit that would be part of a new LCD panel architecture.

55. Alta was a start-up company, originally housed in the residences of Mr. Orlando

² Source driver and column driver are terms that are used interchangeably to refer to this type of integrated circuit.

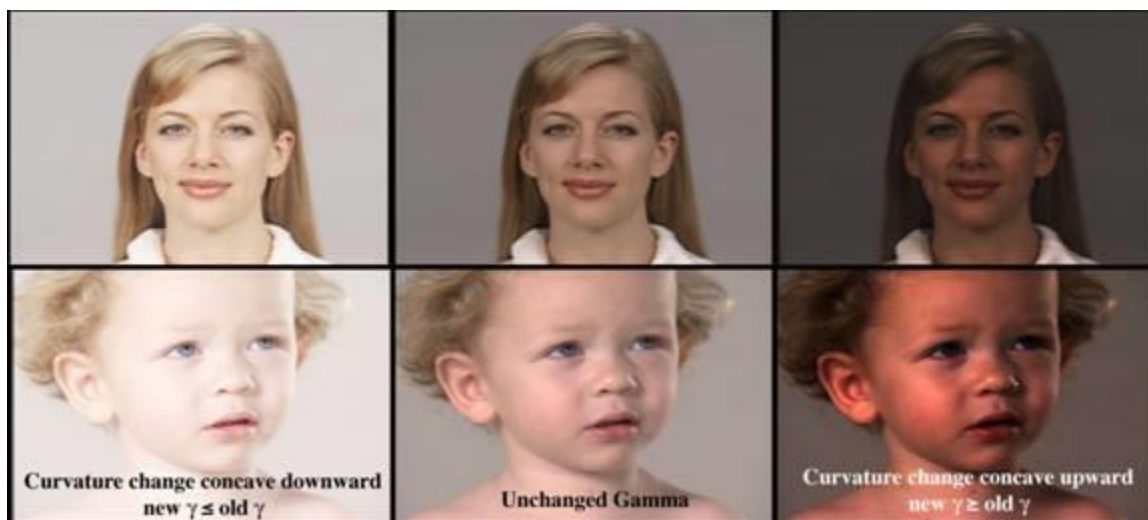
and Mr. Blyth. Alta was founded to commercialize a new fundamental semiconductor technology. Alta grew to approximately 10 employees and contractors, and like many semiconductor companies in Silicon Valley, subcontracted the manufacturing or fabrication step of the integrated circuits designed by Alta. This business model has come to be known as “fabless,” and most chips today are actually made overseas; the manufacture of integrated circuits in the United States having moved offshore, primarily to Asia. Thus, Alta was a fabless semiconductor company.

56. Alta pioneered the first programmable gamma reference generator integrated circuit capable of generating two or more gamma reference voltage display conditions for LCD displays using a tiny integrated circuit. As a result of Alta’s pioneering research and development, Mr. Orlando and Mr. Blyth filed a provisional patent application on June 11, 2003. The inventors assigned the Asserted Patents to their company, Alta. Alta designed and developed six programmable gamma reference generator integrated circuits and the process for calibrating an LCD display to a desired gamma.

57. When fresh off the production line, the pictures produced from LCD panel displays vary noticeably, not only by batch, but also from display-to-display within the same batch. The problem is that the brightness of the pixels making up the LCD display is not a linear or straight-line function of the voltages applied. Compounding the problem is that the sensitivity of the human eye to light is also not linear. In order to obtain an acceptable LCD picture, a way is needed to drive the pixels with a voltage to correct for non-linear abnormalities. The correction is controlled by a set of output voltages applied to the inputs of column drivers on the panel. These voltages are called gamma reference voltages. The gamma reference voltages produce a gamma function that describes how smoothly black transitions to white on a digital display and serve to improve color and contrast.

58. The gamma reference voltages are fed to column drivers connected to LCD displays. As discussed above, the term column driver is a name used in the industry to refer to a specialized integrated circuit with two sets of inputs. This first input is for the digital picture data to be converted into analog voltages applied on the display column containing red, green, and blue pixels. The second input is for the gamma reference voltages coming from the gamma circuit that is used to correct or adjust the conversion occurring on the first input, resulting in the desired display condition.

59. The gamma reference voltages produce changes to the example display below using different gamma correction values:



60. Prior to the invention, gamma correction values were generated using a gamma voltage circuit that used resistor ladders. Replacing the gamma voltage circuit that existed in 2002 with an integrated circuit was a significant improvement that streamlined and saved manufacturing costs while also improving picture quality. The '305 Patent addressed the problem of providing a gamma correction solution to LCD panels by doing away with manually adjusted select-on-test resistors or other discrete components, such as, for example, microcontroller-based solutions, and

replacing these components with an integrated circuit. The incorporation of the P-gamma chip also required LCD panel makers to redesign their products to accommodate the new technology and, in addition, allowed panel makers to automate the testing of their LCD products on the production line, as described in the '788 Patent, a continuation of the '305 Patent. As discussed below, Mr. Orlando made numerous trips to Asia over many years to speak directly to Asian panel makers to promote this new LCD panel architecture.

61. Alta's innovations in panel architecture design and manufacturing processes were adopted in Japan by Sharp Corporation, also known as Sharp Kabushiki Kaisha ("Sharp Japan"). Between 2010 and 2011, Alta sold over 200,000 units of one type of P-gamma integrated circuit to Sharp Japan for inclusion in panels for LCD television sets sold in Japan.

62. However, disruption to the Japanese consumer market for television sets following the trifecta of earthquake, tsunami, and nuclear disaster that occurred on March 11, 2011, negatively impacted domestic sales of Sharp Japan and which, in turn, eventually led to Alta's bankruptcy in 2014. Alta's patents, including the '305 Patent and '788 Patent, were subsequently assigned to Phenix, where co-inventor Mr. Orlando serves as the company's President. The panel design promoted by Mr. Orlando and used by Sharp Japan was eventually adopted by the television industry.

PATENT MARKING

63. Regarding the '305 Patent, Phenix has complied with the marking and notice requirements of 35 U.S.C. § 287, to the extent required. Phenix's predecessor-in-interest, Alta, marked datasheets for its products with patent numbers, including those of the Asserted Patents, even though Alta was not required to comply with the marking and notice requirements of 35 U.S.C. § 287. Alta's sales of covered products were made outside of the United States and foreign

sales are not subject to the marking requirements of 35 U.S.C. § 287. Further, Phenix and all predecessors-in-interest for the patents-in-suit have made reasonable efforts to require all potential licensees of the '305 Patent to mark pursuant to 35 U.S.C. § 287, and the one willing licensee of the Asserted Patents was required to, and did, mark. There are no other licenses, covenants not to sue, settlement agreements, or dismissals with prejudice, where the counterparty to such agreements or dismissals had ongoing products that practiced the claims of the '305 Patent and therefore no further licensee marking was or is required. Samsung Electronics and Samsung Display had full knowledge of, or was willfully blind to knowledge of, the Asserted Patents and their infringement of the Asserted Patents before the filing of this lawsuit, and said knowledge is imputed to SAMEX and Samsung America.

64. The marking and notice requirements of 35 U.S.C. § 287 do not apply to the '788 Patent.

SAMSUNG'S KNOWLEDGE OF THE ASSERTED PATENTS

65. Samsung's infringement of the '305 Patent and the '788 Patent is willful because Samsung has had knowledge of the Asserted Patents many years before this litigation was filed.

66. The provisional patent application that became the '305 Patent was filed in June 2003, before Phenix's predecessor-in-interest Alta began to engage with Samsung Electronics and S-LCD in technical communications regarding Alta's new LCD panel architecture using Alta's P-gamma devices. As alleged above, on information and belief, S-LCD was formed in April 2004 and was the predecessor to Samsung Display, with Samsung Electronics having a 51% share of S-LCD. On information and belief, Alta's first meeting occurred in Anyang, Korea, on August 4, 2003, with four engineers from the display division of Samsung Electronics, before the display division became part of S-LCD.

67. For many years, Alta engaged with Samsung Electronics and S-LCD to promote the adoption of Alta's new LCD panel architecture using Alta's P-gamma devices. From 2003 through 2011, Alta worked with designers, engineers and sales teams from Samsung Electronics' display division, first, and S-LCD afterwards, the latter portion of this time period post-dating the issuance of both of the Asserted Patents.

68. Because of Alta's extensive design and development work with Samsung Electronics and S-LCD, Defendants Samsung Electronics and Samsung Display had knowledge of, or were willfully blind to the knowledge of, the '305 Patent and the '788 Patent, and their infringement is willful.

69. Co-inventor and President of Alta, Mr. Richard Orlando, visited Samsung Electronics and S-LCD offices in Anyang, Korea, and the Tang-Jeong Factory³ numerous times between 2003 and 2011. In addition, one or more contractors and employees of Alta visited and/or had communications with Samsung Electronics and/or S-LCD regarding Alta's LCD panel architecture that was designed using Alta's P-gamma devices. Alta provided detailed technical information to engineers and technical people at Samsung Electronics and S-LCD on the design and development of Alta's P-gamma devices, so that Samsung could learn how to redesign its products to integrate Alta's integrated circuits into Samsung television sets, monitors and displays. Some of the technical information was conveyed in presentations that identified the Asserted Patents by title and stated that they had been granted.

³ On information and belief, the Tang-Jeong Factory was the location in Chungcheongnam-do, Korea, where Samsung Electronics, through S-LCD, manufactured amorphous TFT LCD panels to be integrated into Samsung and Sony LCD televisions. On information and belief, as of April 25, 2008, S-LCD had a monthly production capacity of 100,000 seventh-generation LCD panels and 50,000 eighth-generation LCD panels. On information and belief, production facilities also were located in Japan and Baja California, Mexico.

70. Alta worked diligently to design and develop its products to meet the technical requirements specified by Samsung Electronics and S-LCD. Using the feedback from Samsung Electronics and S-LCD, Alta altered its products during development cycles to accommodate the needs and requirements of Samsung.

71. For the limited purpose of evaluation and testing, Alta provided Samsung Electronics and S-LCD with samples of its integrated circuits, including the AG1818, described as one embodiment in the specification and figures of the '305 Patent. Alta provided Samsung Electronics and S-LCD with demonstration boards that were used to test and evaluate the Alta P-gamma chips, including the AG1818. The Alta demonstration boards consisted of a programmer and evaluation board so that Samsung Electronics and S-LCD could review and test the AG1818. The Alta demonstration boards contained P-gamma chips meeting all limitations of at least one claim of each of the '305 Patent.

72. On or about 2006, Alta provided Samsung Electronics and S-LCD with proprietary calibration software to be used to calibrate LCD displays with gamma reference voltages using Alta's P-gamma integrated circuits. Samsung Electronics and S-LCD provided the necessary hardware for the calibration, including sensors with optical inputs and pattern generators. On information and belief, the Alta demonstration boards and Alta's calibration software, when used together with Samsung-supplied hardware, allowed Samsung Electronics and S-LCD to perform all the steps of at least one process claim of the '788 Patent.

73. These Alta demonstration boards were supplied to allow Samsung to redesign Samsung television so as to use the capabilities of the patented Alta P-gamma chips. The Alta demonstration boards and Alta calibration software presented to Samsung Electronics and S-LCD for testing were never returned to Alta.

74. Knowledge of the Asserted Patents provided to Samsung Electronics and S-LCD by Alta, Phenix's predecessor-in-interest, can and should be imputed to all Defendants because S-LCD was merged into Samsung Display, and because Samsung Electronics, Samsung Display, SAMEX and Samsung America function as an integrated organization and a single business enterprise.

75. Instead of purchasing and using the P-gamma chips patented by Alta, Samsung Electronics and S-LCD learned everything they could from Alta about its new LCD panel architecture, and then decided to infringe the Asserted Patents by organizing an alternative supply chain. On information and belief, knowledge of the existence of and practicing of the process patented in the '788 Patent by the Samsung integrated organization and a single business enterprise flowed from Samsung Electronics and S-LCD to Samsung Display and to other arms of the integrated organization and a single business enterprise by being communicated to other entities of the enterprise by individuals within Samsung Electronics and S-LCD who met with and received information from Alta.

76. On information and belief, despite having knowledge of the Asserted Patents and knowledge that it is directly and/or indirectly infringing one or more claims of the Asserted Patents, Samsung has nevertheless continued its infringing conduct and disregarded an objectively high likelihood of infringement. Samsung's infringing activities relative to the Asserted Patents have been, and continue to be, willful, wanton, malicious, in bad-faith, deliberate, consciously wrongful, flagrant, and an egregious case of misconduct beyond typical infringement such that Plaintiff is entitled under 35 U.S.C. § 284 to enhanced damages up to three times the amount found or assessed.

IPR PROCEEDINGS

77. The validity of the '305 Patent was upheld over an obviousness challenge brought before the Patent Trial and Appeal Board (PTAB) at the United States Patent & Trademark Office (USPTO). The challenger contended certain claims of the '305 Patent were obvious in view of four prior art references, either alone or in combination. The Board denied institution of the *Inter Partes* Review in its entirety. *Wistron Corporation v. Phenix Longhorn, LLC*, IPR2018-01255, Paper 14 (PTAB Jan. 24, 2019).

THE ACCUSED PRODUCTS

78. Samsung made, used, sold, and/or offered to sell in, and/or imported into, the United States Accused Products that infringe one or more claims of the Asserted Patents.

79. There are basically three ways of designing the LCD panels. In the first design type, the electronic circuits that control the LCD display are typically, but not always, located on a separate printed circuit board ("PCB"), known in the industry as a "timing controller board" or "T-con board" for short. In this design, the LCD panels consist of an LCD display and three separate PCB boards: a T-con board which contains one or more P-gamma chips, a main board and a power supply board. This design is referred to herein as a three-board design.

80. The T-con board serves to control and synchronize the timing of the video signals that are sent from the image processor to the LCD display and includes a P-gamma integrated circuit to correct for gamma. The main board is where the tuner resides and serves to control the incoming video and audio signals by converting them into a format that can be displayed on the LCD display and heard through speakers. The power supply board is responsible for safely delivering electrical power from a power outlet to the various circuits and components within the television, monitor or display device.

81. In the second design type, the LCD panel is designed, on information and belief, so that the T-con board's functionality is merged into the main board, and the P-gamma chip's functionality is part of a multi-function integrated circuit. These products consist of an LCD display and two separate PCB boards: a main board and a power board, thus providing a two-board solution.

82. In the third design type, LCD panels are designed so that the functionality of the T-con board, the main board and power board are merged into either one single PCB board or, in the alternative, a main board and a power board fastened together to form one component. Again, on information and belief, the P-gamma chip's functionality becomes a part of a multi-function integrated circuit. This design type is known in the industry as a "three-in-one board" or "3-in-1 board."

83. On information and belief, while one or more of the Defendants are responsible for designing the Accused Products, Defendants work with various LCD panel suppliers, including AU Optronics Corporation ("AUO") and Innolux Corporation ("Innolux"), among others, to integrate components into products made by SAMEX and sold under the Samsung brand.

84. On information and belief, one or more of the Defendants are responsible for designing and developing the Accused Products and make the Accusing Products, in whole or in part, in concert with their suppliers.

85. On information and belief, one or more of the Defendants designs and develops at least a portion of the timing controller boards in the three-board design used in the Accused Products, using components supplied in part from AUO and Innolux, for use with AUO and Innolux LCD panels.

86. On information and belief, Accused Products, that include only a main board and power supply board (the two-board design), in one implementation, and a three-in-one board, in another implementation, are designed and developed by one or more of the Defendants so that the gamma reference control capability in the Accused Products resides on either a main board in the two-board design or a three-in-one board design, that are made in whole or in part by, or on behalf of, one or more of the Defendants.

87. On information and belief, Samsung Electronics and Samsung Display, through SAMEX, incorporated into the Accused Products LCD displays from Innolux, AUO and others that are used to infringe the Asserted Patents. Chronologically, the first Accused Products made by the Defendants were designed with a three-board design having a T-con board. On information and belief, the T-con boards were either designed by Samsung Electronics and Samsung Display or were designed jointly by Samsung Electronics, Samsung Display and their LCD display suppliers, using integrated circuits made by Samsung and integrated circuits made by Samsung's LCD display suppliers. Tables A-1, A-2, B-1 and B-2 below list Accused Products made according to a three-board design; i.e., using a T-con board, a main board and a power supply board.

88. On information and belief, the T-con boards listed in Tables A-1 and A-2 have stamped on them a trademark owned by Samsung Electronics with U.S. Registration Number 3017264.

89. On information and belief, SAMEX manufactured at least the Accused Products listed in Table A-1 for sale in the United States using Samsung and Innolux components, as shown below:

TABLE A-1	
SAMEX PANEL NUMBERS	SAMSUNG MODELS
CY-DE390BGM-C1	UN39EH5003FXZA CD01 UN39EH5003FXZA MD02 UN39FH5000FXZA CD01 UN39FH5000FXZA ND02
CY-DF500BGMV1H	UN50EH5000FXZA UN50EH5300FXZA PJ03
CY-HF500BGMV	UN50F5000AFXZA UN50F5500AFXZA NH04
CY-HF390BGMV	HG39NA570CFXZA ND02 HG39NA578CFXZA ND02 HG39NB460HFXZA ND02 UN39FH5000FXZA PF03
CY-GH050BGNV	HG50ND470SFXZA JY01 HG50NE470SFXZA DA01 HG50NE477SFXZA DA01 HG50NE478SFXZA DA01 UN50H5500AFXZA WH01 UN50J5000AFXZA JD03 UN50J5000BFXZA DA01 UN50J5200AFXZA ID01 UN50J5200AFXZA JD03 UN50J520DAFXZA ID01 UN50J520DAFXZA JD03 UN50M5300AFXZA DB02 UN50M530DAFXZA DB02
CY-HH058BGNV1H/V	UN58H5202AFXZA IS01 UN58J5190AFXZA IS01
CY-GK040HGLV2V/H	UN40KU6300FXZA FF06

90. Furthermore, on information and belief, Samsung Display designed, developed and supplied at least T-con boards BN96-21636A, BN96-22878A, BN96-25576A, BN96-30067A, BN96-30067C, BN96-34825A, BN96-34823A, BN96-37571A and BN96-34827A to control

Innolux LCD displays. On information and belief, these T-con boards were manufactured by or on behalf of Samsung Display, or one of its subsidiaries, using integrated circuits made by Samsung and by Innolux. A list of the Accused Products using these components are summarized in Table A-2 below:

TABLE A-2	
SAMEX PANEL NUMBER	SAMSUNG MODELS
CY-DE550CSM-C1	UN55ES6550FXZA CS02 UN55ES6500FXZA CS02 UN55ES6580FXZA CS02 UN55ES6600FXZA CS02
CY-LE500CGM-C1	UN50ES6100FXZA CS01 UN50ES6150FXZA CS01
CY-HF500CSM-C1	UN46F6300AFXZA UN46F6350AFXZA UN50F6100AFXZA UN50F6300AFXZA UN50F6350AFXZA CH01 UN50F6350AFXZA NH02 UN50F6400AFXZA
CY-GH050CSNV	UN50H6350AFXZA WH02 UN50H6400AFXZA IS02
CY-DH050CGNV	UN50J6200AFXZA IH02
CY-GJ050FLNV1V	HG50ND890UFXZA JS01 UN50JU7100FXZA IS01 UN50JU7100FXZA IA02 UN50KU6300FXZA DA01
CY-TJ050HGNV1V	UN50JU6401FXZA DA01 UN50JU6500FXZA IH01 UN50JU6500FXZA IH02 UN50JU650DFXZA IH01 UN50JU650DFXZA IH02 UN50JS7000FXZA IH01

CY-GJ065FGNV2H	UN65JU639DFXZA IH03 UN65JU650DFXZA ID02 UN65JU650DFXZA ID03 UN65JU650DFXZA IS05
Unknown	UN65JU7100FXZA IH02

91. On information and belief, the T-con boards were manufactured either by or on behalf of Samsung Display, or one of its subsidiaries, using integrated circuits made by or on behalf of Samsung Display and by AUO. On information and belief, SAMEX manufactured at least the following Accused Products for sale into the USA using AUO components, as summarized in Table B-1 below:

TABLE B-1	
SAMEX PANEL NUMBERS	SAMSUNG MODELS
CY-JJ043BGAB1V	HG43ND477SFXZA DY02 UN43J5200AFXZA DD02
CY-JJ043BGAV4V/H	UN43J5000BFXZA AA02 LH43DCJPLGA/GO AA01 HG43NE593SFXZA AB02 LH43DBJPLGA/GO AA01 LH43PHFPBGC/GO AA01 LH43PHFPMGC/GO AA01 LH43PMFPBGA/GO AA01 LH43PMFXTBC/ZA AA01 LH43PMHPBGA/GO AA01
CY-JM043BGAVZV/H	LH43DCJPLGA/GO AA01 HG43NE593SFXZA AB02 LH43DBJPLGA/GO AA01 LH43PHFPBGC/GO AA01 LH43PHFPMGC/GO AA01 LH43PMFPBGA/GO AA01 LH43PMFXTBC/ZA AA01 LH43PMHPBGA/GO AA01

	UN43J5000BFXZA AA02
CY-GJ043HGAV2V	UN43JU640DFXZA AH01
Unknown	UN50J5000BFXZA VA02
Unknown	UN32N5300AFXZA VD04 UN32N5300AFXZA VF06
CY-GJ055BGAVZH/V	HG55NE470BFXZA AA01 LH55DMEPLGA/GO AA04 LH55RHEPLGA/GO AY03 HG55NE477BFXZA AA01 HG55NE478BFXZA AA01 HG55NE690BFXZA AB02 LH55DBEPLGA/GO AA06 LH55DCEPLGA/GO AA03 LH55MLEPLSC/GO AA03
CY-GK046BGAVZ	LH46UHFCLBB/GO FA01
CY-HH085HLAVZH/V	LH85QMNEBGC/GO AA01 LH85QMFPLGC/GO AA01 LH85QMFPLGC/ZA AA01 LH85QMNEBGC/ZA AA01

92. Furthermore, on information and belief, Samsung Display designed, developed and supplied at least T-con board BN95-02706A, BN96-36925A, BN96-37572A, and four other T-con boards with an unknown board number to control AUO LCD displays. On information and belief, these T-con boards were manufactured either by or on behalf of Samsung Display using integrated circuits made by or on behalf of Samsung Display and integrated circuits made by AUO.

93. On information and belief, the T-con boards BN95-02706A, that is a component of Samsung Model UN55K6250AFXZA AA02, has a trademark owned by Samsung Electronics with U.S. Registration Number 3017264.

94. On information and belief, SAMEX manufactured at least the following Accused Products for sale into the USA using AUO components, as summarized in Table B-2 below:

TABLE B-2	
SAMEX PANEL NUMBER	SAMSUNG MODEL
CY-DH050CSA-B2	UN50H6201AFXZA DH03 UN50J6200AFXZA DH03
Unknown	UN50J6300AFXZA DH01
Unknown	UN50J6300AFXZA DH02
CY-DJ065CGAV1H	UN65J6200AFXZA AA03 UN65J6300AFXZA BH02 UN65J630DAFXZA BH02
CY-WJ065FGAV3H	UN65JU6700FXZA DD02 UN65JU670DFXZA DD02 UN65JU6700FXZA DS06 UN65JU670DFXZA DS06
CY-WJ065FGAV1V	UN65JU6700FXZA DD02 UN65JU670DFXZA DD02 UN65JU6700FXZA DS06 UN65JU670DFXZA DS06
CY-WJ065FLAV2H	UN65JU7500FXZA IH02 UN65JU750DFXZA AH02
CY-VK055BGAV2/H	UN55K6250AFXZA AA02

95. On information and belief, on or about 2016, the Defendants started manufacturing television, monitor and display products where the P-gamma function was merged into a multi-function integrated circuit. On information and belief, the gamma values are either calibrated by Samsung Display, if it manufactured the LCD display, or by third-party LCD display manufacturers who are directed to perform calibration of the gamma control capability by one or

more of the Defendants, where said gamma values are stored on a memory chip affixed to the LCD display.

96. The Accused Products in Tables C, D and E are alleged to infringe only the '788 Patent, but Phenix reserves the right to amend this Complaint to also assert infringement of the '305 Patent should discovery in the course of this litigation provide evidence of said infringement.

97. On information and belief, starting on or about 2016, the Defendants began manufacturing products that merged the functionality of the T-con board into the main board, resulting in a two-board design, using a main board and power supply board.

98. On information and belief, SAMEX manufactured at least the following Accused Products utilizing a two-board design for sale into the USA, as summarized in Table C.

TABLE C	
SAMEX PANEL NUMBER	SAMSUNG MODEL
CY-WK055HGLV1H	UN55MU6500FXZA FA01
CY-GM055HGHV4H	UN55MU6300FXZA CC12
CY-UM065FLLV8H	UN65MU8500FXZA FC04
CY-SM065FLAV6H	UN65MU8000FXZA AA02
CY-QM049HLLV1H	QN49Q6FAMFXZA FA01
CY-GM058HGNV2H	UN58MU6100FXZA DA01
CY-SM065FLLV6H	UN65MU8000FXZA FB03
CY-GK050HHNV9H	UN50MU6300FXZA DF09
CY-WM055HGAV1H	UN55MU6490FXZA FA01
CY-WM055HGHV2H	UN55MU6490FXZA CC04
CY-KK040HGNV3H	UN40MU7000FXZA DA01
CY-JM040BGNV1H	UN40M5300AFXZA DA01
CY-GM055HGHV2H	UN55MU6290FXZA CA04
CY-GM049HGLV2H	UN49MU6290FXZA FA01
CY-GK065HGLV7H	UN65MU6300FXZA FB04
CY-GK065HGNVEH	UN65MU6290FXZA DB03
CY-SM065FLAVAH	UN65MU8000FXZA AA02
CY-GK040HGLVCH	UN40MU6300FXZA FB02
CY-WK065HGAV3H	UN65MU6500FXZA AA04
CY-CN065HGAV2H	UN65NU7300FXZA AA01
CY-NN043HGNV1V	UN43NU7100FXZA DA02
CY-KN055FGLV1H	UN55LS03NAFXZA FA01

CY-NN065HGNV2H	UN65NU7100FXZA DA01
CY-NN043HGAV2H	UN43NU7100FXZA AA01
CY-NN055HGEV1H	UN55NU7100FXZA BB08
CY-NN055HGLVCH	UN55NU6900BXZA FA01
CY-QN065FLLV3H	QN65Q7FNAFXZA FA02
CY-CN055HGAV2H	UN55NU7300FXZA AB04
CY-QN065FLLV5H	QN65Q6FNAFXZA FA01
CY-NN050HGAV9H	UN50NU6900BXZA AA03
CY-NN055HGHV1H	UN55NU710DFXZA CB06
CY-NN065HGXV1H	UN65NU6900FXZA ZA02
CY-NR075HGXV1H	UN75RU7100FXZA WA03
CY-NR055FGLV1H	UN55RU8000FXZA FA01
CY-NN050HGCV1H	UN50RU7100FXZA XA05
CY-TR055FLLV3H	QN55Q7DRAFXZA FA01
CY-TR065FLAV2H	QN65Q80RAFXZA AA01
CY-NN055HGLV2H	UN55RU7100FXZA FA01
CY-TR065FLAV1H	QN65Q90RAFXZA AA01
CY-NN058HGNV2H	UN58RU7100FXZA DB03
CY-RR055FGAV1H	QN55Q60RAFXZA AA02
CY-NN058HGNV1H	UN58RU7100FXZA DB04
CY-QR065FGLV1H	QN65LS03RAFXZA FA01
CY-NN065HGEV1H	UN65RU7100FXZA BA02
CY-BT065HGEV7H	UN65TU7000FXZA BB14
CY-CN055HGHV6H	UN55RU7300FXZA CA04
CY-BT070HGPV2H	UN70TU7000BXZA UD08
CY-CT055HGLV1H	UN55TU8300FXZA FA01
CY-BT043HGNV1H	UN43TU8000FXZA DA02
CY-BT055HGHV1H	UN55TU8000FXZA CB01
CY-BT065HGHV1H	UN65TU7000FXZA CC02
CY-BT065HGSV1H	UN65TU7000FXZA UA03
CY-BT075HGLV3H	UN75TU7000FXZA FA04
CY-RT043HGAV2H	QN43Q60TAFXZA AB01
CY-RT058HGNV2H	QN58Q60TAFXZA DB01
CY-RT055HGHV4H	QN55Q60TAFXZA CD02
CY-RT055FGLV3H	QN55Q70TAFXZA AC05
CY-BT060HGSV1H	UN60TU7000FXZA UA02
CY-BT070HGSV4H	UN70TU7000BXZA UB07
CY-BT075HGSV1H	UN75TU7000FXZA UB26
CY-BT065HGEV1H	UN65TU8000FXZA BA01
CY-RT065FGHV4H	QN65Q70TAFXZA CH03
CY-BT070HGSV1H	UN70TU7000BXZA UA03
CY-SA055HGLV4H	UN55AU8000FXZA FF05
CY-SA065HGXV1H	UN65AU8000FXZA WA28
CY-TA050FKAV1H	QN50Q80AAFXZA AA01
CY-QM075FLAV2H	QN75Q7FAMFXZA AA01

CY-SA085HGNV1H	UN85AU8000FXZA DA02
CY-SA050HGAV4H	UN50AU8000FXZA AA03
CY-SA075HGVS2H	UN75AU8000FXZA UA01
CY-QA050HHAV1H	QN50LS03AAFZXZA
CY-SA065HGVS9H	UN65AU8000FXZA UA01
CY-QB065FHHV1H	QN65LS03BAFXZA CB06
CY-QB043HHHV1H	QN43LS03BAFXZA CB06
CY-QB060HGVS1H	QN60Q60BAFXZA UA03
CY-TB065FLEV4H	QN65QN85BDFXZA BD02
CY-QB055HGLV1H	QN55Q60BAFXZA FA07
CY-QB075HGHV2H	QN75Q60BAFXZA CA05
CY-QC055HGHV1H	QN55Q60CAFXZA CA02
CY-TC050HKAV3H	QN50Q80CAFXZA AC02
CY-SC055HGAV2H	UN55DU8000BXZA AB03 UN55CU8000FXZA WB04 HG55BU800NFXZA WA03 HG55BU800NFXZA XA01 HG55BU800NFXZA XA02

99. On information and belief, the Defendants designed and developed a way to combine the T-con board, the video board and the power board into a single PCB, known in the industry as a 3-in-1 board. On information and belief, the gamma values are either calibrated by Samsung Display, if it manufactures the LCD display, or by third-party LCD display manufacturers who are directed to do so by one or more of the Defendants, where said gamma values are stored on a memory chip affixed to the LCD display.

100. On information and belief, SAMEX manufactured at least the following Accused Products for sale into the USA using the 3-in-1 board, as summarized in Table D below:

TABLE D	
SAMEX PANEL NUMBERS	SAMSUNG MODELS
CY-BA043HGAR1V	LH43BEAHLGUXEN AA02
CY-BT043HGCV2H	UN43TU7000FXZA XA03
CY-BT043HGEV4H	UN43TU700DFXZA BA02
CY-BT043HGHV5H	UN43TU700DFXZA CB01
CY-BT050HGAV4H	UN50TU700DFXZA AB03
CY-BT050HGCV2H	UN50TU700DFXZA XC02

CY-BT050HGJV2H	UN50TU7000FXZA GB04
CY-BT050HGNV4H	UN50TU700DFXZA DB01
CY-BT050HGNV4H	UN50TU700DFXZA DL06
CY-BT055HGLV3H	UN55TU7000FXZA FA01
CY-BT055HGLVAH	UN55TU7000FXZA FI04
CY-NN050HGNVJV/H	UN50NU6950FXZA DA01
CY-NN050HGVPV2V/H	UN50NU6900FXZA YA02
CY-NN055HGHV6V/H	UN55NU6080FXZA CA02
HV320FHB-N10	UN32N5300AFXZA BZ01
HV320WHB-N	UN32J4000CFXZA BZ01 UN32J400DCFXZA BZ01
HV430FHB-N	UN43N5300AFXZA BA01
HV430QUB-N	UN43NU6900FXZA BZ01
HV430QUB-N1A	UN43NU6900FXZA BA05 UN43NU6950FXZA BZ01 UN43NU6900FXZA RZ03 UN43NU6950FXZA BC03
T430QVN03.2	UN43NU6900FXZA AZ02
T430QVN03.6	UN43NU6900FXZA AA04 UN43NU6950FXZA AA02 UN43NU6950FXZA AB04 UN43NU6900FXZA AC09

101. On information and belief, starting on or about 2023, Defendants began outsourcing to contracted supplier Hansol Technics to supply 3-in-1 boards for their products. On information and belief, Hansol Technics was a Samsung Group subsidiary until 1991. On information and belief, the latest 3-in-1 boards are actually two PCBs that are joined together with fasteners, where one PCB has video components and a tuner and the other PCB is the power board made or on behalf of Samsung Electronics.

102. Information and belief, SAMEX manufactured at least the following Accused Products for sale into the USA, using the supplied 3-in-1 board made jointly by Hansol Technics and Samsung Electronics, as summarized in Table E below:

TABLE E	
SAMEX PANEL NUMBERS	SAMSUNG MODELS
CY-BA043HGAR4V	UN43CU7000BXZA AA07
CY-BA043HGCR1V	UN43CU7000BXZA XK02
CY-BC043HGCV5H/V	LH43BECHLGFYGO XC01
CY-BC043HGHV5H/V	UN43CU7000BXZA CE04
CY-BC050HGCV5H/V	UN50CU7000BXZA XE01 LH50BECHLGFYGO XC01
CY-BC050HGHV5H/V	UN50CU7000BXZA CE05
CY-BC050HGJV5H/V	UN50CU7000BXZA GE03
CY-BC050HGNV5H/V	UN50CU7000BXZA DB04
CY-BC050HGXV5H/V	UN50CU7000BXZA WE02
CY-BC055HGCV4H/V	UN55CU7000BXZA XB04
CY-BC055HGHV2H/V	UN55CU7000BXZA CB05
CY-BC055HGLV5H/V	UN55CU7000DXZA FE01
CY-BC055HGXV5H/V	LH55BECHLGFYGO WD02
CY-BC055HGXV8H/V	UN55CU7000DXZA WH03
CY-BC058HGCV5H/V	UN58CU7000DXZA XE01
CY-BC058HGEV5H/V	UN58CU7000DXZA BE02
CY-BC065HGHV3H/V	LH65BECHLGFYGO CB02
CY-BC065HGSV5H/V	UN65CU7000BXZA UE01 UN65CU7000DXZA UE01
CY-BC065HGSV9H/V	UN65CU7000BXZA UM03
CY-BD043HGAV2H/V	UN43DU7200BXZA AB06
CY-BD043HGCV2H/V	UN43DU7200BXZA XB01
CY-BD043HGNV2H/V	UN43DU7200BXZA DB03
CY-BD043HGSV2H/V	UN43DU7200BXZA UB02
CY-BD050HGHV1H/V	UN50DU6900FXZA CA01 UN50DU6900DXZA CA01
CY-BD050HGHV2H/V	UN50DU7200BXZA CB01
CY-BD050HGJV2H/V	UN50DU7200BXZA GC05
CY-BD050HGNV2H/V	UN50DU7200BXZA DC02
CY-BD055HGXV2H/V	UN55DU7200BXZA WB01
CY-BD055HGXV5H/V	UN55DU7200BXZA WF03
CY-BD060HGSV2H/V	UN60DU7200DXZA UB01
CY-BD065HGHV2H/V	UN65DU7200BXZA CC02 UN65DU7200BXZA CC03
CY-BD065HGSV2H/V	UN65DU7200BXZA UB01
CY-BD065HGSV5H/V	UN65DU7200BXZA UG05

CY-BD070HG2SV2H/V	UN70DU7200BXZA UB01 UN70DU7200BXZA UB02
CY-BD075HG2EV1H/V	UN75DU6900FXZA BA02
CY-BD075HG2EV2H/V	UN75DU7200BXZA BC02
CY-BD075HG2HV2H/V	UN75DU7200BXZA CB05
CY-BD075HH2SV1H/V	UN75DU6950FXZA UF01
CY-BD085HG2AV2H/V	UN85DU7200BXZA AB01

103. On information and belief, the Samsung models identified in Tables A-1, A-2, B-1, B-2, C, D and E are identified as “Made in Tijuana Mexico (SAMEX)” or have a similar statement of manufacturing origin.

104. The finished television sets manufactured by SAMEX are designed to incorporate and incorporate tuners (i.e., receivers) that conform with FCC requirements and are sold and/or intended to be sold in the United States.⁴

105. The Defendants knowingly make, use, offer for sale, and sell the Accused Products for distribution and sale throughout the United States.

106. On information and belief, SAMEX directly or through affiliates, agents, subsidiaries, or intermediaries, imports into the United States the Accused Products for eventual sale by Samsung America.

⁴ The Advanced Television Systems Committee (ATSC) developed technical standards for digital television in the U.S. To comply, the Defendants incorporate components designed to interface with an ATSC receiver (or tuner) required for the U.S. market. The Federal Communications Commission (FCC) mandated that after March 1, 2007, all televisions regardless of display size, and all interfaces that include a tuner (e.g., VCR, DVD player/recorder, DVR) must include a built-in ATSC DTV tuner.

COUNT I
DIRECT INFRINGEMENT OF THE '305 PATENT
BY SAMEX UNDER 35 U.S.C. § 271(a)

107. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

108. SAMEX has infringed and continues to directly infringe (literally and/or under the doctrine of equivalents) of one or more claims of the '305 Patent. On information and belief, SAMEX manufactures the Accused Products sells or offers to sell in the United States and/or exports from Mexico to the United States the Accused Products. SAMEX knew and/or was willfully blind to the fact that the selling, offering to sell, and/or importing the Infringing SAMEX Products would infringe one or more claims of the '305 Patent.

109. Phenix is the owner of the '305 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '305 Patent against infringers, and to collect damages for all relevant times.

110. The claims of the '305 Patent are novel and non-obvious and recite elements and steps that were not routine or conventional at the time of the invention, either individually or in combination.

111. The '305 Patent generally describes an integrated circuit used to correct for gamma variations in LCD panels to compensate for panel-to-panel manufacturing variations. The claims of the '305 Patent, including Claim 1, recite a novel and inventive apparatus for producing voltage signals on a plurality of outputs comprising non-volatile storage cells, programming circuits coupled to a multiplexer that address the many inputs, drivers connected to the storage cells and outputs, and inputs connected to the multiplexer to address the storage cells, where the gamma reference voltage signals determine the driving voltages of columns of a display, the non-volatile storage cells are organized into banks with a predetermined gamma reference voltage signal

display condition, and the banks are able to be switched by external signals on the integrated circuit.

112. For example, Claim 1 of the '305 Patent recites:

An integrated circuit for producing voltage signals on a plurality of outputs comprising:

a plurality of non-volatile storage cells;

circuits for programming coupled to a multiplexer for addressing and programming said storage cells, wherein the addressing is based on a plurality of inputs;

drivers connected to said storage cells and to the plurality of outputs; and

the plurality of inputs connected to said multiplexer for addressing said storage cells,

wherein said voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of a display, wherein said non-volatile storage cells are organized into two or more banks of cells wherein each bank contains a predetermined gamma reference voltage signal display condition; and means to switch between the banks based on one or more external signals is provided on said integrated circuit.

113. On information and belief, the Accused Products designed and developed by Samsung Electronics and Samsung Display, manufactured by SAMEX, and sold to Samsung America contain at least one integrated circuit for producing voltage signals on a plurality of outputs with a plurality of non-volatile storage cells and circuits for programming coupled to a multiplexer for addressing and programming said storage cells, where the addressing is based on a plurality of inputs, the drivers connect to the storage cells and the outputs, the inputs connect to the multiplexer for addressing the storage cells, the voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of display, the non-volatile storage cells are organized into banks of cells, each bank contains a predetermined gamma reference voltage

signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

114. On information and belief, SAMEX has had knowledge of the '305 Patent as a result of the knowledge either directly or imputed to it by Samsung Electronics and Samsung Display before this Complaint was filed, and on information and belief, SAMEX knew of the '305 Patent and knew of its infringement, including by way of this lawsuit.

115. SAMEX has actively, knowingly, intentionally, and willfully continued to infringe the '305 Patent, literally or by the doctrine of equivalents, by selling, offering to sell, and/or importing into the United States the Accused Products and have made, and continue to make, unlawful gains and profits from infringing the '305 Patent.

116. As a direct and proximate result of the infringement by SAMEX of the '305 Patent, Phenix has suffered monetary losses for which Phenix is entitled to an award of damages that are adequate to compensate Phenix for the past infringement of SAMEX under 35 U.S.C. § 284, but in no event less than a reasonable royalty on any infringing product made, used, sold, or offered for sale in the United States or elsewhere, together with interest and costs.

COUNT II
DIRECT INFRINGEMENT OF THE '305 PATENT
BY SAMSUNG AMERICA UNDER 35 U.S.C. § 271(a)

117. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

118. Samsung America has infringed and continues to directly infringe (literally and/or under the doctrine of equivalents) of one or more claims of the '305 Patent. On information and belief, Samsung America sells or offers to sell and distributes the Accused Products in the United States and/or imports into the United States the Accused Products. Samsung America knew and/or

was willfully blind to the fact that the selling, offering to sell, and/or importing the Accused Products would infringe one or more claims of the '305 Patent.

119. On information and belief, the Accused Products imported from SAMEX, sold and/or offered for sale by Samsung America contain at least one integrated circuit for producing voltage signals on a plurality of outputs with a plurality of non-volatile storage cells and circuits for programming coupled to a multiplexer for addressing and programming said storage cells, where the addressing is based on a plurality of inputs, the drivers connect to the storage cells and the outputs, the inputs connect to the multiplexer for addressing the storage cells, the voltage signals are gamma reference voltage signals for determining actual driving voltages of columns of display, the non-volatile storage cells are organized into banks of cells, each bank contains a predetermined gamma reference voltage signal display condition, and the banks are able to be switched by external signals on the integrated circuit.

120. On information and belief, Samsung America has had knowledge of the '305 Patent as a result of the knowledge either directly or imputed to it by Samsung Electronics and Samsung Display before this Complaint was filed, and on information and belief, Samsung America knew of the '305 Patent and knew of its infringement, including by way of this lawsuit.

121. Samsung America has actively, knowingly, intentionally, and willfully continued to infringe the '305 Patent, literally or by the doctrine of equivalents, by selling, offering to sell, and/or importing into the United States the Accused Products and have made, and continue to make, unlawful gains and profits from infringing the '305 Patent.

122. As a direct and proximate result of the infringement by Samsung America of the '305 Patent, Phenix has suffered monetary losses for which Phenix is entitled to an award of damages that are adequate to compensate Phenix for the past infringement of Samsung America

under 35 U.S.C. § 284, but in no event less than a reasonable royalty on any infringing product made, used, sold, or offered for sale in the United States or elsewhere, together with interest and costs.

COUNT III
INDUCED INFRINGEMENT OF THE ASSERTED PATENTS
BY SAMSUNG ELECTRONICS & SAMSUNG DISPLAY UNDER 35 U.S.C. § 271(b)

123. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

124. On information and belief, Samsung Electronics and Samsung Display had knowledge of the Asserted Patents by way of S-LCD working with Alta over many years to design and develop its products to meet the technical requirements of S-LCD. Knowledge of the Asserted Patents and intent to infringe the Asserted Patents by S-LCD can be and should be imputed to Samsung Electronics and Samsung Display. Knowledge of the Asserted Patents was provided by receiving samples of Alta P-gamma chips, Alta demonstration boards and calibration software, and through meetings, e-mails and presentations that included information on or about the Asserted Patents.

125. On information and belief, Samsung Electronics and Samsung Display have induced and continue to induce infringement (literally and/or under the doctrine of equivalents) of one or more claims of the Asserted Patents, in violation of 35 U.S.C. § 271(b). With direct and/or imputed knowledge of the Asserted Patents, Samsung Electronics and Samsung Display's deliberate and/or willfully blind actions include, but are not limited to, actively designing and developing the Accused Products, arranging the supply of infringing components, encouraging, and instructing others such as businesses, brokers, distributors, agents, channel partners, resellers and sales representatives to sell, offer to sell, and/or import into the United States the Accused Products. These actions, individually and collectively, have induced and continue to induce the

direct infringement of the Asserted Patents by others who import into the United States the Accused Products. Samsung Electronics and Samsung Display knew and/or was willfully blind to the fact that the induced parties' use, testing, making available for another's use, promotion, marketing, distributing, importing, selling, and/or offering to sell the Accused Products would infringe one or more claims of the Asserted Patents.

126. In violation of 35 U.S.C. § 271(b), Samsung Electronics and Samsung Display have induced and continue to induce infringement of one or more claims of the Asserted Patents by one or more direct infringers, including SAMEX and Samsung America, either individually or collectively, either literally or by the doctrine of equivalents.

127. On information and belief, Samsung Electronics and Samsung Display have made, and continue to make, unlawful gains and profits from infringing the Asserted Patents.

128. On information and belief, Samsung Electronics and Samsung Display designed and developed the Accused Products to be manufactured by SAMEX. On information and belief, Samsung Electronics and Samsung Display have had knowledge of the '305 Patent since at least as early as 2007 and of the '788 Patent at least as early as 2009. As a consequence of the past dealings of Samsung Electronics and S-LCD with Alta that pre-dated the filing and service of this Complaint as alleged above, Samsung Electronics and Samsung Display had knowledge of, or were willfully blind to knowledge of, the Asserted Patents and their infringement of the Asserted Patents before the filing of this lawsuit. Accordingly, Samsung Electronics and Samsung Display have been willfully infringing the Asserted Patents since they began inducing direct infringement of the Accused Products.

COUNT IV
INDUCED INFRINGEMENT OF THE ASSERTED PATENTS
BY SAMEX UNDER 35 U.S.C. § 271(b)

129. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

130. On information and belief, to the extent that SAMEX does not directly sell, offer to sell, and/or import into the United States the Accused Products, SAMEX has induced and continues to induce infringement (literally and/or under the doctrine of equivalents) of one or more claims of the Asserted Patents, in violation of 35 U.S.C. § 271(b). With knowledge of the Asserted Patents, SAMEX's deliberate and/or willfully blind actions include, but are not limited to, actively supplying, causing the supply to, encouraging, and instructing others such as businesses, brokers, distributors, agents, channel partners, resellers and sales representatives to sell, offer to sell, and/or import into the United States the Accused Products. These actions, individually and collectively, have induced and continue to induce the direct infringement of the Asserted Patents by others who import into the United States the Accused Products. SAMEX knew and/or was willfully blind to the fact that the induced parties' use, testing, making available for another's use, promotion, marketing, distributing, importing, selling, and/or offering to sell the Accused Products would infringe one or more claims of the Asserted Patents.

131. In violation of 35 U.S.C. § 271(b), SAMEX has induced and continues to induce infringement of one or more claims of the Asserted Patents by one or more direct infringers, either literally or by the doctrine of equivalents. SAMEX manufactures, supplies, distributes, offers for sale, or sells the Accused Products to Samsung America and others who without authority use, offer to sell, or sell Accused Products within the United States, or import into the United States, in violation of 35 U.S.C. §§ 271(a) and/or 271(g).

132. On information and belief, SAMEX has made, and continues to make, unlawful gains and profits from infringing the Asserted Patents.

133. On information and belief, Samsung Electronics and/or Samsung Display designed and developed the Accused Products to be manufactured by SAMEX. On information and belief, Samsung Electronics and Samsung Display had knowledge of the '305 Patent since at least as early as 2007 and of the '788 Patent at least as early as 2009, and this knowledge was imputed to SAMEX. As a consequence of Samsung Electronics and S-LCD's past dealings with Alta that predated the filing and service of this Complaint as described above, SAMEX had imputed knowledge of, or was willfully blind to knowledge of, the Asserted Patents and their infringement before the filing of this lawsuit. Accordingly, SAMEX has been willfully infringing the Asserted Patents since it began manufacturing and selling the Accused Products.

COUNT V
INFRINGEMENT OF THE '788 PATENT
BY SAMEX UNDER 35 U.S.C. § 271(g)

134. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

135. SAMEX has infringed and continues to directly infringe (literally and/or under the doctrine of equivalents) of one or more claims of the '788 Patent. On information and belief, SAMEX manufactures the Accused Products sells or offers to sell in the United States and/or exports from Mexico to the United States the Accused Products. SAMEX knew and/or was willfully blind to the fact that the selling, offering to sell, and/or importing the Infringing SAMEX Products would infringe one or more claims of the '788 Patent.

136. Phenix is the owner of the '788 Patent, with all substantive rights in and to that patent, including the sole and exclusive right to prosecute this action and enforce the '788 Patent against infringers, and to collect damages for all relevant times.

137. The claims of the '788 Patent are novel and non-obvious and recite elements and steps that were not routine or conventional at the time of the invention, either individually or in combination.

138. The '788 Patent describes a method for calibrating an LCD to a desired gamma curve to compensate for panel-to-panel manufacturing variations. The claims of the '788 Patent, including Claim 1, recite a novel and inventive method for calibrating LCD displays to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

139. For example, Claim 1 of the '788 Patent recites:

A method of calibrating a liquid crystal display to a desired gamma curve to compensate for panel to panel manufacturing variations comprising the steps:

- a. providing said display with gamma reference control capability which is electrically reprogrammable and non-volatile;
- b. testing said display with at least one sensor with optical input, wherein said sensor is separate from said display;
- c. varying gamma reference voltage levels on columns of said display by a control circuit, where said control circuit is separate from said display;
- d. optimizing said gamma reference voltage levels using means for executing a predetermined algorithm according to a predetermined criteria and data sensed by said at least one sensor, wherein said means for executing said predetermined algorithm is separate from said display to achieve the desired gamma curve; and
- e. storing said gamma reference voltage levels in said gamma reference control capability.

140. The Accused Products manufactured by SAMEX and sold to Samsung America are made using a method for calibrating LCD to a desired gamma curve to compensate for manufacturing variations by providing a display with electrically reprogrammable and non-volatile gamma reference control capability, testing the display with a sensor, varying the gamma reference voltage levels on columns of the display with a control circuit, optimizing the gamma reference voltage levels with predetermined algorithms, criteria, and data to achieve the desired gamma curve, and storing the gamma reference voltage levels.

141. Because the Defendants and/or their suppliers perform gamma calibration in secured manufacturing centers away from the public and because knowledge of the supply chain is not public information, Phenix will need additional discovery to ascertain which parties perform the steps of the infringement of the '788 Patent claims.

142. On information and belief, the Accused Products manufactured using the above process are neither materially changed by subsequent processes nor become trivial and nonessential components of another product. Plaintiffs rely in part on 35 U.S.C. § 295 to satisfy their burden of pleading infringement and to cast the burden of proof of noninfringement on Defendants.

Section 295 states:

In actions alleging infringement of a process patent based on the importation, sale, offer for sale, or use of a product which is made from a process patented in the United States, if the court finds-

- (1) that a substantial likelihood exists that the product was made by the patented process, and
- (2) that the plaintiff has made a reasonable effort to determine the process actually used in the production of the product and was unable so to determine, the product shall be presumed to have been so made, and the burden of establishing that the product was not made by the process shall be on the party asserting that it was not so made.

The House Report on Section 295 describes the purpose of the presumption it creates as follows:

This presumption addresses a great difficulty a patentee may have in proving that the patented process was actually used in the manufacture of the product in question in those cases, where the manufacturer is not subject to discovery under the Federal Rules of Civil Procedure. For example, patent owners will frequently be unable to obtain information concerning the nature of processes being practiced by foreign manufacturers. Shifting the presumption should create no substantial burden, as an accused infringer should be in a much better position to establish that the product was made by another method.

H.R. Rep. 100-60, p.16 (1987).

143. To satisfy Section 295, the patentee need only present evidence that would support a reasonable conclusion that the accused product was made by the patented process.

144. The patentee need not show that the patented method was the only commercially available method before the burden-shifting presumption of Section 295 applies.

145. In violation of 35 U.S.C. § 271(g), SAMEX has directly infringed and continues to infringe one or more claims of the '788 Patent, either literally or by the doctrine of equivalents, by without authority importing into the United States, offering to sell, selling, or using within the United States the Accused Products, which are made by a process patented in the '788 Patent.

146. Defendants SAMEX has made, and continues to make, unlawful gains and profits from infringing the '788 Patent.

COUNT VI
INFRINGEMENT OF THE '788 PATENT
BY SAMSUNG AMERICA UNDER 35 U.S.C. § 271(g)

147. Phenix realleges and incorporates herein the preceding allegations of this Complaint as if fully set forth herein.

148. Samsung America has infringed and continues to directly infringe (literally and/or under the doctrine of equivalents) of one or more claims of the '788 Patent. On information and

belief, Samsung America sells or offers to sell and distributes the Accused Products in the United States and/or imports into the United States the Accused Products. Samsung America knew and/or was willfully blind to the fact that the selling, offering to sell, and/or importing the Accused Products would infringe one or more claims of the '788 Patent.

149. In violation of 35 U.S.C. § 271(g), Samsung America has directly infringed and continues to infringe one or more claims of the '788 Patent, either literally or by the doctrine of equivalents, by without authority importing into the United States, offering to sell, selling, or using within the United States the Accused Products, which are made by a process patented in the '788 Patent.

150. On information and belief, Samsung America is owned or controlled by Samsung Electronics as part of the aforementioned integrated organization and single business enterprise owned and controlled by Samsung Electronics. On information and belief, the integrated organization and single business enterprise controlled by Samsung Electronics practices the process patented in the '788 Patent to produce the Accused Products imported into or offered for sale, sold, or used within the United States by Samsung America.

151. On information and belief, Samsung America had knowledge that the process patented in the '788 Patent was used to produce the Accused Products prior to Samsung America importing into the United States, offering to sell, selling, or using within the United States the Accused Products. On information and belief, this knowledge was either direct known by or imputed to Samsung America because the Defendants function as an integrated organization and a single business enterprise owned and controlled by Samsung Electronics, and knowledge of the existence of and practicing of the process patented in the '788 Patent by the Samsung integrated organization and a single business enterprise flowed from Samsung Electronics and S-LCD to

Samsung Display and to other arms of the integrated organization and a single business enterprise by being communicated to other entities of the enterprise by individuals within Samsung Electronics and S-LCD who met with and received information from Alta.

152. Defendant Samsung America has made, and continues to make, unlawful gains and profits from infringing the '788 Patent.

COUNT VII
WILLFUL INFRINGEMENT BY SAMSUNG ELECTRONICS,
SAMSUNG DISPLAY, SAMEX & SAMSUNG AMERICA

153. Phenix realleges and incorporates herein the preceding allegations of this First Amended Complaint as if fully set forth herein.

154. The infringement of the Asserted Patents is willful to the extent that the past dealings of Samsung Electronics and S-LCD with Alta that pre-dated the filing and service of the Original Complaint, as described above, gave Samsung Electronics and Samsung Display actual notice of the Asserted Patents prior to filing this lawsuit with subsequent willful misconduct through their deliberate or willfully blind actions or, alternatively, at least by the time of filing and service of the Original Complaint, Defendants' actual notice of the Asserted Patents and the infringement thereof.

155. The knowledge of the Asserted Patents by Samsung Electronics and Samsung Display and the intent to infringe is imputed to SAMEX and Samsung America because the Defendants function as an integrated organization and a single business enterprise owned and controlled by Samsung Electronics.

156. Samsung Electronics, Samsung Display, SAMEX and Samsung America continue to make or have made, use, make available for another's use, sell or offer to sell, supply or cause to be supplied, and/or import the Accused Products, and/or continue to induce and/or contribute to

the infringement of others, including consumers, businesses, distributors, agents, channel partners, resellers, sales representatives, end users, and customers.

157. On information and belief, the direct infringement and/or inducement of infringement of the Asserted Patents by Samsung Electronics, Samsung Display, SAMEX and Samsung America, have been and continue to be willful.

ATTORNEYS' FEES

158. According to 35 U.S.C. § 285, Plaintiff is entitled to, and respectfully requests, its reasonable attorneys' fees in this case.

DEMAND FOR JURY TRIAL

159. According to Fed. R. Civ. P. 38(b), Plaintiff respectfully requests a trial by jury on all issues triable by a jury.

PRAYER FOR RELIEF

WHEREFORE, Plaintiff prays for the following relief:

a. that this Court declare that Defendants SAMEX and Samsung America have directly infringed and continue to directly infringe of one or more claims of the Asserted Patents under 35 U.S.C. § 271(a) and (g);

b. that this Court declare that Defendants Samsung Electronics, Samsung Display and SAMEX have indirectly infringed and continues to indirectly infringe one or more claims of the Asserted Patents under 35 U.S.C. § 271(b);

c. that this Court award Plaintiff all damages adequate to compensate Plaintiff for Defendants' respective infringements; and that interest and costs be assessed against Defendants according to 35 U.S.C. §§ 154(d) and 284;

d. that this Court declare Defendants' respective infringement was and is willful, and award treble damages for the period of the willful infringement of the Asserted Patents;

e. that this Court declare this an exceptional case and order that Defendants pay Plaintiff its reasonable attorneys' fees and costs according to 35 U.S.C. § 285; and

f. that this Court award any additional relief to Plaintiff that this Court deems just and proper.

December 30, 2024

Respectfully submitted,

By: /s/ Mark D. Siegmund

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