

USITC Inv. No. 337-TA-1349 (U.S.Intern.Trade Com'n), USITC Order No. 28, 2023 WL 6551036

United States International Trade Commission (U.S.I.T.C.)

*1 Administrative Law Judge Order

IN THE MATTER OF COMPONENTS FOR CERTAIN ENVIRONMENTALLY-
PROTECTED LCD DIGITAL DISPLAYS AND PRODUCTS CONTAINING SAME
ORDER NO. 28: CONSTRUING CERTAIN TERMS OF THE
ASSERTED CLAIMS (MARKMAN CLAIM CONSTRUCTION)

USITC Inv. No. 337-TA-1349

October 4, 2023

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Compl.	Complaint
CMBr.	Complainants' Initial <i>Markman</i> Brief
CPMBr.	Complainants' Post-Hearing <i>Markman</i> Brief
RMBr.	Respondent's Initial <i>Markman</i> Brief
RPMBr.	Respondent's Post-Hearing <i>Markman</i> Brief
CXM	Complainants' <i>Markman</i> Exhibit
RXM	Respondent's <i>Markman</i> Exhibit
JXM	Joint <i>Markman</i> Exhibit
Tr.	<i>Markman</i> Hearing Transcript

I. BACKGROUND

*2 On January 10, 2023, the Commission instituted this Investigation pursuant to subsection (b) of Section 337 of the Tariff Act of 1930, as amended, to determine:

whether there is a violation of subsection (a)(1)(B) of section 337 in the importation into the United States, the sale for importation, or the sale within the United States after importation of certain products identified in paragraph (2) by reason of infringement of one or more of claims 1-3 and 11-13 of the '575 patent; claims 1-3 and 6-9 of the '348 patent; claims 1, 2, and 5 of the '117 patent; claims 1, 10-12, and 16-19 of the '253 patent; and claims 1-4 and 6-13 of the '311 patent, and whether an industry in the United States exists as required by subsection (a)(2) of section 337[.¹

88 Fed. Reg. 1404-05 (Jan. 10, 2023).

The Notice of Investigation ("NOI") names as complainants: Samsung Electronics Co., Ltd. of Gyeonggi-do, Korea ("Samsung Elecs."); Samsung Electronics America of Ridgefield Park, New Jersey ("Samsung Elecs. America"); Samsung Research America, Inc. of Mountain View, CA ("Samsung Research America"); and Samsung International, Inc. of Chula Vista, California ("Samsung International") (collectively, "Samsung" or "Complainants"). *Id.* at 1404-05. The NOI names as respondent: Manufacturing Resources International, Inc. of Alpharetta, Georgia ("Respondent" or "MRI," and with Complainants, the "Parties"). (*Id.* at 1405.). Commission Investigative Staff ("Staff") is not a party in this Investigation. (*Id.*).

On March 24, 2023, pursuant to Order No. 5 ("Adopted Procedural Schedule"), the Parties filed a Joint Claim Construction Chart ("JCCC"). (Doc. ID No. 793160 (Mar. 24, 2023)). The JCCC contains: (i) 2 agreed upon claim terms recited in certain asserted claims of the '575 patent and the '311 patent; and (ii) 10 disputed claim terms recited in the '575 patent, the '348 patent, the '117 patent, the '253 patent, and the '311 patent that the Parties asked to be construed. (*Id.*).

*3 Additionally, each of the Parties filed an initial *Markman* Brief. (Doc. ID No. 794330 (Apr. 13, 2023) ("CMBr.");² Doc. ID No. 794253 (Apr. 12, 2023) ("RMBr.")).

Pursuant to Order No. 11, a *Markman* hearing was held on June 6, 2023 ("Markman Hearing"). (Order No. 11 (Apr. 26, 2023); see also MHR'g Tr., Doc. ID No. 798030 (June 6, 2023)). On June 14, 2023, the Parties filed a Post-Hearing Joint Claim Construction Chart ("PH JCCC"). (Doc. ID No. 798654 (June 14, 2023)). On June 21, 2023, each party filed a Supplemental *Markman* Brief. (Doc. ID No. 799085 (June 21, 2023) ("CPMBr."); Doc ID No. 799055 (June 21, 2023) ("RPMBr.")).

On August 24, 2023, Complainants filed an unopposed motion for partial termination of the Investigation. (Motion Docket No. 1349-013.). On September 11, 2023, Complainants unopposed motion for partial termination of the Investigation was granted. (Order No. 22.). As a result, the '575 patent and the '348 patent were terminated from this Investigation. The following claims remain in this Investigation ("Asserted Claims"): claims 1 and 2 of the '117 patent; claim 12 of the '253 patent; and claims 4, 6, and 13 of the '311 patent. While the Commission has not acted on these terminations, for purposes of this document, the '575 and '348 patents have been terminated. Disputed claim term Nos. 1, 2, 5-10, 12, and 14 are no longer at issue in this Investigation.

II. APPLICABLE LAW

Claim construction begins with the language of the claims themselves. Claims should be given their ordinary and customary meaning as understood by a person of ordinary skill in the art, viewing the claim terms in the context of the entire patent. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) ("*Phillips*"). In some cases, the plain and ordinary meaning of claim language is readily apparent and claim construction will involve little more than "the application of the widely-accepted meaning of commonly understood words." *Id.* at 1314. In other cases, claim terms have a specialized meaning and it is necessary to determine what a person of ordinary skill in the art would have understood disputed claim language to mean by analyzing "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, as well as the meaning of technical terms, and the state of the art." *Id.* (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1116 (Fed. Cir. 2004)).

*4 The claims themselves provide substantial guidance with regard to the meaning of disputed claim language. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be highly instructive." *Id.* Similarly, other claims

of the patent at issue, regardless of whether they have been asserted against respondents, may show the scope and meaning of disputed claim language. *Id.*

In cases in which the meaning of a disputed claim term in the context of the patent's claims is uncertain, the specification is the "single best guide to the meaning of a disputed term." *Id.* at 1321. Moreover, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." *Id.* at 1316. As a general rule, however, the particular examples or embodiments discussed in the specification are not to be read into the claims as limitations. *Id.* at 1323.

The prosecution history may also explain the meaning of claim language, although "it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Id.* at 1317. The prosecution history consists of the complete record of the patent examination proceedings before the U.S. Patent and Trademark Office ("PTO"), including cited prior art. *Id.* The prosecution history may reveal "how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be." *Id.*

If the intrinsic evidence is insufficient to establish the clear meaning of a claim, a court may resort to an examination of the extrinsic evidence. *Zodiac Pool Care, Inc. v. Hoffinger Indus., Inc.*, 206 F.3d 1408, 1414 (Fed. Cir. 2000). Extrinsic evidence may shed light on the relevant art, and "consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Phillips*, 415 F.3d at 1317. In evaluating expert testimony, a court should disregard any expert testimony that is conclusory or "clearly at odds with the claim construction mandated by the claims themselves, the written description, and the prosecution history, in other words, with the written record of the patent." (*Id.* at 1318.). Moreover, expert testimony is only of assistance if, with respect to the disputed claim language, it identifies what the accepted meaning in the field would be to one skilled in the art. *Symantec Corp. v. Comput. Assocs. Int'l, Inc.*, 522 F.3d 1279, 1289 n.3., 1290-91 (Fed. Cir. 2008). Testimony that recites how each expert would construe the term should be accorded little or no weight. *Id.* Extrinsic evidence is inherently "less reliable" than intrinsic evidence, and "is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." *Phillips*, 415 F.3d at 1318-19.

*5 Extrinsic evidence is a last resort: "[i]n those cases where the public record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper." *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996).

III. THE ASSERTED PATENTS AND CLAIMS AT ISSUE

A. The '117 Patent

The '117 patent, entitled "Panel Type Display Device," was filed on February 23, 2012, as U.S. Patent Application Serial No. 13/403,559 ("the '559 application"). (JXM-0003 ('117 patent) at (21), (22), (54).). The '117 patent issued on September 9, 2014, and names Joon Kang and Jeong Su Lim as inventors. (*Id.* at (45), (75).). The '559 application is a reissue of U.S. Patent No. 7,667,964 ("the '964 patent"), which issued on February 23, 2010 from U.S. Application Serial No. 11/872,057 ("the '057 application"), which was filed October 15, 2017. (*Id.* at (64).). The '117 patent claims its earliest priority to KR 10-2007-0002081, filed on January 8, 2007. (*Id.* at (30).). Samsung Elecs. owns by assignment all right, title and interest in and to the '117 patent. (*See, e.g.*, Compl. at ¶ 46.).

The '117 patent provides, among other things, panel display devices, such as Liquid Crystal Display (LCD) or Plasma Display Panel (PDP) devices, that are capable of minimizing temperature increase in the interior of the case and display panel. (JXM-0003 ('117 patent) at 1:55-59.). In some display devices, there is a front case and a rear case, a display panel and circuit boards mounted in an interior of the case, and air inlets formed at a lower portion of the rear case through which air flows, such that air flowing through the lower air inlets cools down the display panel and the circuit boards in the interior of the case and is exhausted through upper air outlets. (*Id.* at 1:32-42.). According to the '117 patent, this arrangement causes the internal

temperature of the case to increase due to inter-heating between the display panel and the circuit boards, which causes the surface temperature of the panel to increase and, in the case of an LCD panel, causes deterioration of the liquid crystal. (*Id.* at 1:43-51.).

*6 The '117 patent addresses the foregoing problem by providing a first cooling path that cools the display panel and a second cooling path that cools at least one circuit board, wherein the first and second cooling paths are separated from each other. (*Id.* at 1:60-67.). A first exemplary embodiment of the foregoing is depicted in Figure 1, reproduced below. The display device has a case 10 with a front case 11 and a rear case 12, a display panel 20 which can be an LCD or PDP, air inlets 61, upper air outlets 62, first cooling path 60, air flow holes 71, air flow holes 72, second cooling fluid path 70. (*Id.* at 2:58-3:2, 3:13-33.).

Figure 1 (annotated version of Figure 1 of the '117 patent from CMBR. at 14)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
(*Id.* at Figure 1, 2:53-3:59.).

The first embodiment is further illustrated in Figure 2 of the '117 patent, reproduced below, which depicts circuit boards 31, 32, and 33, circuit board mounting parts 41, 42, and 43, and covers 51, 52, and 53 for covering the circuit board mounting parts. (*Id.* at 3:3-12.). Figure 2 shows how the air flow holes 71 and 72 are formed on the covers 51, 52, and 53. (*Id.* at 3:38-41.).

Figure 2 (annotated version of Figure 2 of the '117 patent from RMBR. at 9)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
(*Id.* at Figure 2, 3:3-12, 3:60-65.).

A second exemplary embodiment is depicted in Figure 3, reproduced below, which shows a partition plate 500, which replaces the circuit board mounting part used in the first exemplary embodiment, mounted on an inner surface of a rear case 120, a plurality of air flow holes 710 and 720 for air flow through a second cooling path 700 formed on the rear case 120, a first cooling fluid path 60 and air inlets and outlets 61 and 62, respectively, formed at the lower and upper portions of the rear case 120.

Figure 3 (Figure 3 of the '117 patent)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
(*Id.* at Figure 3, 3:66-4:15.).

The '117 patent claims are directed to "an electronic display device having a display panel mounted in an interior of a case, a circuit board mounting part on a rear surface of the case, a first cooling path which cools the display panel, and a second cooling fluid path which cools a circuit board." (Joint Technology Stipulation (Doc. ID No. 794829) at 2.).

B. The '253 Patent

*7 The '253 patent, entitled "Liquid Crystal Display Device Having Air Conditioner," was filed on February 28, 2013, as U.S. Patent Application Serial No. 13/780,137 ("the '137 application"). (JXM-0004 ('253 patent) at (21), (22), (54).). The '253 patent issued on September 23, 2014, and names Jin Sub Kim, Jin Hyun Cho, Sung Ki Kim, and Joon Kang as the inventors. (*Id.* at (45), (72).). The '137 application is a continuation of U.S. Patent Application Serial No. 13/530,312 ("the '312 application"), filed on June 22, 2012 and issued as U.S. Patent No. 8,411,227. (*Id.* at (63).). The '312 application is a continuation of U.S. Patent Application Serial No. 12/478,832 ("the '832 application"), filed on June 5, 2009 and issued as U.S. Patent No. 8,223,311. (*Id.*). The '253 patent claims its earliest priority to KR 10-2008-0055687, dated June 13, 2008. (*Id.* at (30).). Samsung Elecs. owns by assignment all right, title and interest in and to the '253 patent. (*Id.* at (71); Compl. Ex. 9; Compl. Ex. 29C.).

The '253 patent provides, among other things, an LCD device with a heat dissipation structure to remove or release heat incident on a front side of the liquid crystal panel. (JXM-0004 ('253 patent) at 1:52-56.). This is achieved by providing a liquid crystal panel, a protection panel arranged a predetermined distance from the liquid crystal panel, and a flow control device to impart turbulence to an air flow in a channel, which is defined between the liquid crystal panel and the protection panel. (*Id.* at 1:65-2:4.). The flow control device may be a cooling fan to blow air in the channel, may include a temperature sensor to detect a temperature of air having passed through the channel, and may include a flow control device to regulate a flow rate of air in the cooling fan. (*Id.* at 2:5-13.).

*8 For example, Figures 2 and 3 depict a housing 10 partitioned into upper and lower spaces by a partition 16. In the upper space there is a liquid crystal panel assembly 20 with liquid crystal panel 21, backlight unit 22, and circuit board 23 to control operation of the liquid crystal panel 21 and the backlight unit 22. The liquid crystal panel assembly 20 is spaced apart from the protection panel 12, the rear panel 15, and the top panel 14. Air in the housing passes through first channel 41 defined between the liquid crystal panel assembly 20 and the protection panel 12, thereby cooling the front of the liquid crystal panel 21, then the air flows through second channel 41 defined between the liquid crystal panel assembly 20 and the top panel 14, and then the air through a third channel defined between the liquid crystal panel 20 and the rear panel 15, thereby cooling the circuit board 23 and the backlight unit 22. The lower space has an air conditioner 30 with an evaporator 31, a cooling fan 32, compressor 33, condenser 34, and air blowing fan 35. After flowing through channels 1, 2, and 3, air flows through opening 18 toward the evaporator 31. Air blown by the cooling fan 32 moves to the first channel 41 via air inlet 17 and there is an exit 36 arranged at the inlet 17 such that air emerging from the exit 36 passes through the first channel 17. (*Id.* at 5:4-6:45.). Figures 2 and 3 of the '253 patent are reproduced below.

Figure 4 (annotated version of Figure 2 of the '253 patent from RMBR. at 12)

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(*Id.* at Figure 2, 5:1-6:45.).

Figure 5 (Figure 3 of the '253 patent)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
(*Id.* at Figure 3, 5:1-7:9.).

According to the '253 patent, if the air passing through the first channel 41 is turbulent, the heat removed from the front side of the liquid crystal panel 21 is greater as compared to when there is laminar flow in the first channel 41. (*Id.* at 6:28-41.). Therefore, the liquid crystal display device includes flow control device 50 to regulate the flow of air in the cooling fan 32 based on the temperature around the liquid crystal panel assembly 20 such that turbulent flow is maintained in the first channel 41. (*Id.* at 8:53-9:27.).

The '253 patent claims are directed to "a display device that has a display assembly enclosed inside a housing and, for most claims, controlling an air flow to a channel between a display panel of the display assembly and a front side of the housing." (Joint Technology Stipulation (Doc. ID No. 794829) at 3.).

C. The '311 Patent

*9 The '311 patent, entitled "Liquid Crystal Display Device Including Airflow Channel," was filed on June 5, 2009, as U.S. Patent Application Serial No. 12/478,832 ("the '832 application"). (JXM-0004 ('311 patent) at (21), (22), (54).). The '311 patent issued on July 17, 2012, and names Jin Sub Kim, Jin Hyun Cho, Sung Ki Kim, and Joon Kang as the inventors. (*Id.* at (45),

(75).). The '311 patent claims its earliest priority to KR 10-2008-0055687, dated June 13, 2008. (*Id.* at (30)). Samsung Elecs. owns by assignment all right, title and interest in and to the '311 patent. (*See, e.g.*, Compl. at ¶ 28.).

The '311 patent and the '253 patent share a common specification and so the description above for the '253 patent applies equally to the '311 patent and is not repeated here. The '311 patent claims are directed to "a liquid crystal display device that has a liquid crystal panel spaced apart from a protection panel to form a channel, and for most claims, controlling an air flow to the channel." (Joint Technology Stipulation (Doc. ID No. 794829) at 3.)

IV. PERSON OF ORDINARY SKILL IN THE ART

A. Legal Standard

A hypothetical person is a person of ordinary skill and "ordinary creativity." *KSB Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420 (2007). "Factors that may be considered in determining [the] level of ordinary skill in the art include: (1) the educational level of the inventor[s]; (2) type of problems encountered in the art; (3) prior art solutions to the problems; (4) rapidity with which inventions are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Env'tl. Designs Ltd. v. Union Oil Co. of California*, 713 F.2d 693, 696-97 (Fed. Cir. 1983) (citations omitted). "These factors are not exhaustive but merely a guide to determining the level of ordinary skill in the art." *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007).). The hypothetical person of skill is also separately presumed to have knowledge of all the relevant prior art in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 693, 697 (Fed. Cir. 1983).

B. The Adopted Definition

*10 The Parties agree that a person of ordinary skill in the art with respect to all the Asserted Patents would have had "(1) a bachelor's degree in a pertinent discipline, such as mechanical engineering, electrical engineering, physics, applied physics, product design, or a related field and (2) two to four years of experience in working with electronic displays." (CMBR. at 2; RMBR. at 21, 38, 50-51.).

Respondent's proposal for the amount of experience is slightly different from Complainants' proposal. Respondent says the POSITA would have had "at least two years of experience." (RMBR. at 21, 38, 50-51.). In addition, Respondent proposes that the two years of experience would include experience working with thermal management associated with electronic displays. *Id.*

Complainants propose that, alternatively, a POSITA would "equivalently have had 5-7 years of experience in the field working with electronic displays and have a similar understanding of product design issues and failure modes associated with electronic displays. To the extent necessary, a POSITA would have been able to collaborate with one or more other persons of skill in another art (e.g., one of skill in the art of electrical engineering) for one or more aspects with which the other person may have expertise, experience, and/or knowledge that was obtained through her own education, industrial or academic experience." (CMBR. at 2.).

The Parties do not advance argument or evidence for why either version of the POSITA is the correct one. There is no evidence that the technology at issue requires formal education and no evidence that the POSITA would not collaborate with those in related fields if necessary. Therefore, the undersigned largely adopts Complainants' proposal, except that Complainants' proposal that the POSITA have an understanding of "product design issues and failure modes associated with electronic displays" is overly broad in the context of the Asserted Patents.

The '311 patent, the '253 patent, and the '117 patent are all directed to the issue of cooling electronic displays. ('311 patent (JXM-005) at 1:15-19 (Field of the Invention: "[t]he present general inventive concepts relates to a liquid crystal display device, and, more particularly, to a liquid crystal display device with a heat dissipation structure to cool a liquid panel of the device"); '253 patent (JXM-0004) at 1:19-23 (same as '311 patent); '117 patent (JXM-0003) at 1:19-24 (Field of the Invention:

” [a]pparatuses consistent with the present invention relate generally to a panel type display device and, more particularly, to a panel type display device capable of minimizing temperature increase in the interior of a case and a display panel”). The '348 patent and the '575 patent are directed to liquid crystal display devices to be installed outdoors. ('348 patent (JXM-0002) at 1:20-23; '575 patent (JXM-0001) at 1:17-20.).

*11 Therefore, the undersigned adopts the following for the level of ordinary skill in the art: the POSITA would have had either: 1) a bachelor's degree in a pertinent discipline, such as mechanical engineering, electrical engineering, physics, applied physics, product design, or a related field and at least two years of experience in working with electronic displays; or 2) at least five years of experience in working with electronic displays. The POSITA's experience working with electronic displays would include experience working with thermal management associated with electronic displays and design issues associated with outdoor electronic displays. The POSITA would have been able to consult with person(s) skilled in other arts if necessary.

V. DISPUTED CLAIM TERMS

A. The '117 Patent

1. Term 3: "display panel" ('117 Patent, independent claim 1)

Claim Term(s)	Samsung's Construction	Respondent's Construction	Adopted Construction
display panel	No construction necessary.	a flat type screen on which images are displayed, such as a Liquid Crystal Display or Plasma Display Panel	Flat type display for displaying images
('117 patent, independent claim 1)	Alternatively, plain and ordinary meaning, which is: flat-type display for displaying images		As explanation, but not part of the claim construction itself, this would include both a Liquid Crystal Display and a Plasma Display Panel

*12 According to Complainants, the two (2) disputed issues are whether the claimed "display panel" should be limited to only the "screen" portion, as Respondent suggests, and whether Complainants disavowed display panels having backlights during prosecution of the '117 patent. (See CPMBR. at 8.). Respondent argues that, as discussed during the *Markman* Hearing, the Parties' dispute is whether "display panel" in claim 1 of the '117 Patent includes both a "display panel" and a *backlight* (as Complainants propose) or whether the term is limited to only the "display panel" in accordance with the plain language of the

claim (as proposed by Respondent). (RPMBr. at 9-10 (citing Tr., at 55:20-67:1)). Before discussing the Parties' dispute, some background of the technology will be helpful.

In the "Background of the Invention" section of the '117 patent, under "Description of the Related Art," the '117 patent teaches that both Liquid Crystal Display ("LCD") and Plasma Display Panel ("PDP") display devices are known. (JXM-0003 ('117 patent) at 1:25-28.). Complainants' expert Dr. Bruce Smith described the basic structure of LCDs in his declaration. (CXM-0005 ("Smith Decl.") at ¶ 21.). Dr. Smith explained that an LCD is made up of liquid crystal ("LC") cells "in an array of picture elements, known as pixels," and that the liquid crystals are sandwiched between a thin film transistor ("TFT") plate and a top color filter substrate. (*Id.*). Dr. Smith provided the following figure that depicts a cross section of an edge of a TFT LCD, which he took from the book "Active Matrix Liquid Crystal Displays: Fundamentals and Applications" (2005) by William den Boer (CXM-0005.0045-61) ("Boer"). (Smith Decl. at ¶ 21.).

Figure 6 (Figure 3.2 of Boer depicting cross section of an edge of a TFT LCD)

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(Boer at 50 (CXM-0005.0058)). Another article titled "Liquid Crystal Displays" published in 1998 ("1998 LCD Article") depicts an LCD panel with a backlight and describes the figure as showing "the many layers that make up the flat panel." (CPMBr. at 9 (citing RXM-0001.0002)). That depiction is reproduced below:

Figure 7 (Depicting LCD With Backlight From 1998 LCD Article)

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(RXM-0001.0002.). As shown in the figures above, an LCD typically includes a component called a "backlight." This is because "LCDs are non-emissive and need external light sources (backlight or ambient light) to be legible." (Boer at 197 (CXM-0005.0059)).

*13 In contrast, in PDPs the pixel cells individually emit radiation via an inert gas-generated plasma. (Smith Decl. at ¶ 23.). "Because the pixel cells themselves cause fluorescence, PDPs typically do not require a backlight." (*Id.* (citing Boer at 197-199 (CXM-0005.0059-61))).

During the *Markman* hearing, the Parties agreed that LCDs generally have a backlight whereas PDPs do not. (Tr. at 50:23 (Complainants: "LCDs have backlights and PDPs do not"), 64:19-20 (Respondent: "PDPs don't have a backlight"), 65:4-7 (Question: Would a person of ordinary skill in the art say that LCDs need a backlight? Respondent's Answer: "I believe--typically yes.)). Although the Smith Declaration, Boer, and the 1998 LCD Article are extrinsic evidence, each of these exhibits of extrinsic evidence are considered here because they assist in understanding the technology/patents at issue. "Consultation of extrinsic evidence is particularly appropriate to ensure that [the judge's] understanding of the technical aspects of the patent is not entirely at variance with the understanding of one skilled in the art." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999).

Based on the foregoing, there is no apparent dispute that, as the '117 patent explains, panel display devices can have LCDs with a backlight or PDPs without a backlight. The issue is whether the context of the specification and prosecution history provides a different meaning for "display panel" that excludes the presence of a backlight in the '117 patent. *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012) ("[a]bsent disclaimer or lexicography, the plain meaning of the claim controls") (citing *Thorner v. Sony Computer Ent. Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) ("The words of a claim are generally given their ordinary and customary meaning as understood by a person of ordinary skill in the art when read in the context of the specification and prosecution history. There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his own lexicographer, or 2) when the patentee disavows the full scope of a claim term either in the specification or during prosecution") (internal citations omitted)).

Complainants contend that Respondent's construction, which limits the claimed "display panel" to just the "screen," and which would not encompass the presence of a backlight, is not grounded in the intrinsic evidence and instead is driven by a motivation to unduly narrow the claim in support of some non-infringement position. (CMBR. at 10.). Respondent counter argues that Complainants' proposed construction ignores the words of the claims, which recite "display panel" not just "display," Complainants' description of the "display panel" in the specification, and Complainants' description of the "display panel" during prosecution. (RMBR. at 38.). Respondent also argues that Complainants have eliminated the word "panel" from the term and incorporated the word "electronic." (RPMBr. at 10.).

*14 Respondent's proposal to limit the claimed "display panel" to just the "screen" is rejected because nothing in the specification or prosecution history suggests that the "display panel" should be limited to just the screen. To the contrary, the '117 patent refers to "a screen portion" of the display panel, (JXM-003 ('117 patent) at 5:49-50 (claim 11)) and "light emission" of the display panel (element 20 of Figure 2a), (JXM-003 ('117 patent) at 2:66-3:1). Having a "screen portion" implies that there are other components of the display panel. Emitting light means the display panel must either have a PDP or both an LCD and a backlight. *See infra*. Respondent's proposal to limit the display panel to just a "screen" would thus exclude a preferred embodiment "[A] claim construction that excludes a preferred embodiment . . . is rarely, if ever correct and would require highly persuasive evidentiary support." *Kaufman v. Microsoft Corp.*, 34 F.4th 1360, 1372 (Fed. Cir. 2022) (internal citations and quotations omitted).

Respondent argues that the specification's description of minimizing temperature increase of "the surface of the display panel" supports its proposed construction. (RMBR. at 39-40 (citing JXM-0003 ('117 patent) at 3:24-38 and Figure 1.). There are at least two (2) flaws in Respondent's argument. One, the specification describes cooling the display panel, not the surface of the display panel. The specification says the "display panel 20 is cooled by air flowing along the first cooling path." (JXM-0003 ('117 patent) at 3:34-35.). Two, even if the specification described cooling a "surface" of the display panel, Respondent provided no evidence, reasoning, or explanation for why such a disclosure of the "surface" of the display panel means the display panel cannot include components other than the "screen."

By explanation and its limiting claim construction, Respondent appears to be attempting to import a negative limitation, if not into the claim language itself, then into the explanation of Respondent's interpretation of the claim. That is incorrect, either way. It is incorrect to read a negative limitation into a claim term absent express disclaimer or independent lexicography. *Omega Eng'g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1322-23 (Fed. Cir. 2003) (overturning district court claim construction incorporating a negative limitation where neither the plain and ordinary meaning nor the language of the claims required the negative limitation, and where "neither the district court nor Raytek has identified any express disclaimer or independent lexicography in the written description that would justify adding that negative limitation").

*15 Respondent also argues that the presence of any components other than the "screen," such as a backlight, was disclaimed during prosecution of the '117 patent. (RMBR. at 40-42; RPMBr. at 12-13.). Respondent's prosecution disclaimer argument is rejected because Complainants actions during prosecution do not clearly and unmistakably constitute a disclaimer of "display panel" such that it cannot include any component other than the "screen." "[Prosecution disclaimer] attaches if a patentee has unequivocally disavowed a certain meaning to obtain a patent in a way that is clear and unmistakable. *Traxcell Techs., LLC v. Nokia Sols. & Networks Oy*, 15 F.4th 1136, 1141 (Fed. Cir. 2021) (internal citations and quotations omitted). "If so, it narrows the meaning of the claim congruent with the scope of the surrender." *Id.* (internal citations and quotations omitted). The doctrine ensures that claims "are not construed one way in order to obtain their allowance and in a different way against the accused infringers." *Id.* (internal citations and quotations omitted). Moreover, with respect to a backlight, many LCDs have them, but not necessarily.

During prosecution Complainants added new claims 11-23 that recited "display panel module." (JXM-0009.0068-71.). The Examiner rejected the new claims for failure to comply with the written description requirement because Complainants "amended [the] claims by claiming a new part--'the display panel module', which is not defined in the specification." (*Id.* at 121.).

In response, Complainants changed the claims to recite "display panel" instead of "display panel module," (*id.* at 138-142), and thereby obtained allowance of the patent. (*Id.* at 200-203, 230-235.). Respondent asserts that "display panel module" would have "necessarily included components beyond the flat type screen on which images are displayed (i.e. the display panel)," and so a broader construction would allow Complainants to impermissibly recapture scope that was surrendered during prosecution. (RMBR. at 41; RPMBR. at 12-13.). A problem with Respondent's argument is that there is no intrinsic evidence of the difference in meaning between "display panel" and "display panel module."

As support for its assertion that "display panel module" includes components, such as a backlight, beyond just the "screen," Respondent resorts to extrinsic evidence. Respondent cites to [U.S. Patent Application Publication No. 2006/0001800 \(RXM-0002\)](#), page 6, paragraph [0003], which is a lengthy paragraph in the Background of the Invention that says: (i) a liquid crystal display panel "consists of a thin film of liquid crystals sandwiched between a pair of transparent substrates, each of the transparent substrates typically having a transparent electrically conductive coating applied to the liquid crystal side thereof, said transparent coating functioning as an electrode"; and (ii) "[m]any liquid crystal displays include a backlight." Respondent also cites [U.S. Patent No. 7,944,520 \(RXM-0004\)](#) at 9:52-10:17, which says, *inter alia*, that the LCD panel and backlight may be separated as individual units. (RPMBR. at 11.). Additionally, Respondent cites to [U.S. Patent Application Publication No. 2005/0219438 \(RXM-0005\)](#), which states that the "LCD module has a liquid crystal panel unit . . . and a back light unit," "[t]he liquid crystal panel unit and the back light unit are held together as one unit," and "an LCD module 10 is provided with a liquid crystal panel unit 11 and a back light unit 12." (RPMBR. at 11 (citing RXM-0005, paragraphs [0005-6]).)

*16 More relevantly, Respondent also cites to Samsung patents that were asserted in, but have been terminated from, the present Investigation, specifically the '575 patent and the '348 patent, which say "[g]enerally, a liquid crystal display (LCD) device is a type of a flat panel display device, and includes a backlight unit emitting light and a liquid crystal panel" (JXM-0001 ('575 patent) at 1:22-25), and the '253 patent and the '311 patent, which say "[a]n LCD device generally includes a liquid crystal panel and a backlight unit (BLU) to apply light to a rear side of the liquid crystal panel." (JXM-0004 ('253 patent) at 1:29-36.).

Finally, Respondent also cites to paragraph 62 of the Complaint, in which Samsung states "LCD devices generally include a liquid crystal panel and a backlight unit (BLU) . . ." These disclosures, according to Respondent, establish that "display panel" does not include a backlight, whereas another term, "module," is used in the LCD art to refer to the combination of a display panel and a backlight. (RPMBR. at 12.). Apparently, Respondent has interpreted the Complaint as distinguishing between a liquid crystal display panel and a backlight unit (BLU) because they are identified separately in the Complaint.

Complainants argue that there is no statement by Samsung during patent prosecution that amounts to a clear and unmistakable disavowal of claim scope. (CPMBR. at 10-11.). Complainants argue that during prosecution, Samsung pointed to the same portions of the specification to support "display panel" and "display panel module," thus strongly implying that Samsung considered the terms to have an identical scope. (*Id.* at 11.).

The evidence Respondent has presented does not establish that there is a general understanding that "display panel" refers only to the screen and "display panel module" refers to the screen plus additional components, such as a backlight. To the contrary, [U.S. Patent Application Publication No. 2006/0001800 \(RXM-0002\)](#), page 6, paragraph [0003] says that many liquid crystal displays "include a backlight." [U.S. Patent No. 7,944,520 \(RXM-0004\)](#) at 9:52-10:17 says the LCD panel and backlight *may* be separated as individual units (meaning they need not be, and so the backlight can be part of the LCD panel). Although [U.S. Patent Application Publication No. 2005/0219438 \(RXM-0005\)](#), paragraphs [0005-6], says the "LCD module has a liquid crystal panel unit . . . and a back light unit," "[t]he liquid crystal panel unit and the back light unit are held together as one unit," and "an LCD module 10 is provided with a liquid crystal panel unit 11 and a back light unit 12," this single extrinsic patent application is not sufficient to clearly and unmistakably define "display panel" and "display panel module" in the context of the '117 patent so as to establish prosecution disclaimer, especially given the other extrinsic evidence just discussed, which expressly permits the backlight to be part of the LCD panel.

*17 As such, Complainants' decision to revise its claims directed to "display panel module" to recite "display panel" to overcome a written description rejection is not a clear and unmistakable disclaimer of all components other than a screen, including a backlight. *Omega Eng'g, Inc.*, 334 F.3d at 1325 ("[t]o balance the importance of public notice and the right of patentees to seek broad patent coverage, we have thus consistently rejected prosecution statements too vague or ambiguous to qualify as a disavowal of claim scope"). The record does not establish that, in the context of the '117 patent, the difference between "display panel module" and "display panel" is that the former encompasses components other than the screen. Therefore, it is not clear that this claim term was construed one way to obtain allowance and is now being construed differently against Respondent. *Traxcell Techs., LLC*, 15 F.4th at 1141.

Finally, Complainants' proposal to limit the "display panel" to "electronic" displays is not supported by the intrinsic evidence. While it may be true that LCD panels (or at least parts of them) are electronic, and although the embodiments described in the specification are electronic, it is contrary to claim construction principles to limit the claims to the embodiments disclosed in the specification. *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1328 (Fed. Cir. 2003) ("our precedent is clear that claims are not perforce limited to the embodiments disclosed in the specification").

2. Term 4: "circuit board mounting part" ('117 Patent, independent claim 1 and dependent claim 2)

Claim Term(s)	Samsung's Construction	Respondent's Construction	Adopted Construction
circuit board mounting part	No construction necessary.	Subject to 35 U.S.C. § 112, ¶ 6	Not subject to 35 U.S.C. § 112, ¶ 6
('117 Patent, independent claim 1 and dependent claim 2)	Alternatively, plain and ordinary meaning, which is:	<i>Function:</i> to receive and mount the circuit board	Does not require construction and should be interpreted according to its plain and ordinary meaning.
	Part for attaching a circuit board	<i>Structure:</i> the specific structure recited in Column 3, lines 3-65 and illustrated in Figures 1-2	
	As discussed during the <i>Markman</i> hearing, Samsung disputes that 35 U.S.C. § 112, ¶ 6 applies, but if it does:		

Function: to
provide an area
for mounting
the circuit board

Structure: the
structure recited
in Column 3,
lines 3-12 and
lines 60-65,
and/or the
structures
illustrated in
Figures 1-2,
and equivalents
thereof

***18** The Parties dispute whether the claim language "circuit board mounting part" fails to connote sufficiently definite structure and is thus a means plus function term in accordance with 35 U.S.C. § 112, ¶ 6. (CMBr. at 13-15; RMBr. at 44-48.). As noted previously, if a claim term does not use the word "means," then there is a rebuttable presumption that section 112, ¶ 6 does not apply. *Williams v. Citrix Online, LLC*, 792 F.2d 1339, 1348-49 (Fed. Cir. 2015) (en banc). If a POSITA would understand this claim term "to have a sufficiently definite meaning as the name for structure," then § 112, ¶ 6 does not apply. *Id.* at 1348. "In cases where it is clear that a claim term itself connotes some structure to a person of ordinary skill in the art, the presumption that § 112, ¶ 6 does not apply is determinative in the absence of more compelling evidence of the understanding of one of ordinary skill in the art." *Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1366 (Fed. Cir. 2022) (internal quotations and citations omitted).

Complainants note correctly that it is Respondent's burden to meet the "preponderance of the evidence" standard that a POSITA would fail to understand the structure of the "circuit board mounting part" in light of the claim as a whole. (CMBr. at 15 (citing *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1373 (Fed. Cir. 2003)).). Complainants contend that Respondent has not met its evidentiary burden because the claim says, "the case includes a circuit board mounting part provided on a rear surface of the case." (CMBr. at 13; JXM-000 ('117 patent) at 4:42-43.). Complainant argues that the specification language also establishes that the circuit board mounting part is a part or portion of the case for attaching a circuit board. (CMBr. at 13.). The specification describes the circuit board mounting part (element 42) as being a portion of the rear surface of the case (element 12) where a circuit board (element 32) is mounted, (JXM-0003 ('117 patent) at 2:37-39, 3:13-23), as shown in Figure 8, which is an annotated version of Figure 1 of the '117 patent reproduced below.

Figure 8 (annotated version of Figure 1 of the '117 Patent from CMBr. at 14)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***19** (CMBr. at 13-14 (citing JXM-0003 ('117 patent) at 2:27-39, 3:13-23, Figure 1.).

Complainants also point to a dictionary definition of "part" as "portion." (CMBr. at 14 (citing CXM-0003.0005 (Webster's Third New International dictionary)).) Finally, Complainants cite *Coprecitec, S.L. v. Brinkmann Corp.*, No. 1:12-CV-1480-AT, 2013 WL 12061898, at *4 (N.D. Ga. Nov. 20, 2013), a decision in which means-plus-function limitations were not applied to claim terms containing the word "part," and instead those claim terms were construed in accordance with their plain and ordinary meaning.³ (*Id.* at 14-15.).

Respondent asserts that terms such as "member" and "part" are "nonce" words because "they are verbal constructs that do not connote sufficiently definite structure." (RMBr. at 45 (quoting *Toshiba Tec Corp. v. Katun Corp.*, No. SA CV-15-01979

SJO (JCx), 2016 WL 88617173, at *15 (C.D. Cal. Dec. 1, 2016)). Respondent argues that the claim language "circuit board mounting" merely describes the function that the immediately succeeding language "part" performs. (RMBR. at 46.). Respondent further argues that the '117 patent specification describes the circuit board mounting part in purely functional terms based on the following description: "circuit board mounting parts 41, 42, and 43 for respectively mounting the circuit boards 31, 32 and 33 are provided on a rear surface of the rear case 12" and "[e]ach of the circuit board mounting parts 41, 42 and 43 has an open rear while being recessed in a predetermined depth from rear to front of the rear case 12 such that the circuit boards 31, 32 and 33 can be received in the circuit board mounting parts 41, 42 and 43, respectively." (RMBR. at 46-49; RPMBr. at 15-17 (citing JXM-0003 ('117 patent) at 3:3-10.).

Respondent also submitted an expert declaration by Mr. Richard A. Flasck, (RXM-0017 ("Flasck Decl.")), in which he opines that the POSITA would not have understood "circuit board mounting part" to refer to any specific structure and, in Mr. Flasck's experience, "circuit board mounting part" is not used in the art to refer to any type of identifiable physical structure or component. (Flasck Decl., ¶ 25.). Complainants did not rebut Respondent's argument in the Declaration of Dr. Bruce Smith even though, as Respondent notes, Dr. Smith provided opinions on the '575, '348, and '311 patents in his Declaration. (See Smith Decl. (CXM-0005) at ¶¶ 25-79.).

In this case, the presumption that the claim does not invoke means plus function claiming is not rebutted. The claim says the case "includes a circuit board mounting part provided on a rear surface of the case," and as such informs a POSITA that the circuit board mounting part is structural, i.e. it is part of the case. (JXM-0003 ('117 patent) at 3:3-12.). Although the only structures that Complainants identify for the claimed "circuit board mounting part" are located in Figures 1 and 2 of the '117 patent (element 42), those figures and their accompanying descriptions clearly depict and describe recesses in the rear of the case, i.e. structures, that receive the circuit board.

*20 Finally, the opinion of Respondent's expert Mr. Flasck, that a POSITA would not have understood "circuit board mounting part" to refer to any specific structure and is not used in the art to refer to any type of identifiable physical structure or component, (Flasck Decl., ¶ 25), is afforded little weight because extrinsic evidence is a "last resort" that cannot be relied on to contradict the intrinsic evidence when the intrinsic evidence is clear. *Vitronics Corp.*, 90 F.3d at 1583. Here the context for the claim term is clear. This claim term is thus not subject to 35 U.S.C. § 112, ¶ 6.

While the Parties disagree about whether § 112, ¶ 6 applies, Complainants assert that if § 112, ¶ 6 applies then they agree with Respondent that the structure is limited to what is described in the '117 patent at col. 3 lines 3-12, lines 60-65, Fig. 1, and Fig. 2, but Complainants would also include "equivalents thereof." (CPMBr. at 13-15.). Figure 2 of the '117 patent, an annotated version of which is reproduced below, illustrates where the structure of the circuit board mounting parts (elements 41, 42, and 43) would be inserted into the back of the case to mount the circuit boards (elements 31, 32, and 33), as described in the '117 patent at 3:3-12 and 3:60-61 ("the circuit board mounting parts 41, 42, and 43 are recessed from rear to front of the rear case 12").

Figure 9 (annotated version of Figure 2 of the '117 Patent from RMBR. at 9)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE
(JXM-0003 ('117 patent) at 3:3-12, 3:60-61, Fig. 2.).

During the *Markman* hearing, Complainants explained that "equivalents thereof" means that the circuit board mounting parts (elements 41, 42, and 43 in Figure 2) "do not need to form a recess," and so the circuit boards may be "mounted to protrude from an outer surface of a rear case." (Tr. at 79:5-80:1.). Complainants argued that Respondent's proposed construction, which excludes "equivalents thereof," would fail to capture embodiments in the specification and therefore should be rejected. (CMBR. at 15-16 (citing *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996)); CPMBr. at 14-15 (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004) and *GE Lighting Sols., LLC v. Agilent, Inc.*, 750 F.3d 1304, 1309 (Fed. Cir. 2014)).).

*21 For its reasoning, Respondent argues that any "parts" that might be "equivalents thereof" was disclaimed during prosecution. (RMBR. at 49-50.). According to Respondent, Samsung represented during prosecution that claims 1, 2, and 5 are limited to the embodiment described at 3:3-65 and Figures 1 and 2. (*Id.*) During prosecution, the Patent Examiner rejected certain reissue claims as impermissibly recapturing "broadened claimed subject matter surrendered in the application for the patent upon which the present reissue is based." (JXM-0009 ('117 patent prosecution history) at 151.). According to the Patent Examiner, the broadened subject matter related to the location of the "circuit board mounting part." (*Id.* at 152.) In response, Complainants argued that claims 1-10 were "directed to a first embodiment illustrated in FIG. 1," whereas the reissue claims were directed to "the alternative embodiment illustrated in FIG. 3." (JXM-0009.0183-143.) A single statement that the claims are "directed to a first embodiment" does not constitute a clear and unmistakable disclaimer of the scope of "circuit board mounting part" such that this claim term cannot encompass equivalent structures because "directed to" does not mean "is limited to." *Omega Eng'g, Inc.*, 334 F.3d at 1325. Therefore, Respondent's prosecution disclaimer argument is rejected.

The last issue is whether the function is "to provide an area for mounting the circuit board" as Complainants propose, or if it is "to receive and mount the circuit board" as Respondent proposes. The claim recites that "the circuit board is received in the circuit board mounting part." ('117 patent at 4:45-46.) Respondent's proposal therefore reflects the purpose of the circuit board mounting part as described in the specification, i.e. to "receive" the circuit board. In contrast, Complainants' explanation "to provide an area" proposal finds no support in the claims or the specification and is therefore rejected.

B. The '253 Patent and the '311 Patent

1. Term 5: "display assembly" ('253 patent, independent claim 11)

Claim Term(s)	Samsung's Construction	Respondent's Construction	Adopted Construction
display assembly	No construction necessary.	<u>Pre-Hearing proposed construction:</u>	Module that includes a display panel
('253 Patent, independent claim 11)	Alternatively, plain and ordinary meaning, which is:	Module including a display panel, a backlight unit, and a circuit board to control the display panel and the backlight unit	As part of the explanation of the construction, but not part of the construction, the "display assembly" may, but is not required, to have a backlight and a circuit board to control the display panel and the backlight
	Electronic display for displaying images	<u>Post-Hearing proposed construction:</u>	

Module that
includes a
display panel

*22 According to Complainants, the parties agree that the claimed "display assembly" is a module that includes a "display panel." (CMBR. at 16; Tr. at 104:1.). But the Parties dispute whether the claim term "display assembly" must necessarily include a backlight unit and a circuit board to control the display panel and to control the backlight unit. (*Id.*; Tr. at 104:4-7). Respondent asserts that the claimed "display assembly" must have a different meaning than the claimed "display panel" based on the presumption that different claim terms have different meanings. (RMBR. at 51-52, 54.). Respondents further assert that the difference in meaning between these two claim terms is that the claimed "display assembly" must necessarily include, in addition to a display panel, a backlight unit and a circuit board to control the display panel and to control the backlight unit because the specification says "the liquid crystal panel assembly includes a liquid crystal panel, a backlight unit to irradiate light to the liquid crystal panel, and a circuit board to control the liquid crystal panel and the backlight unit," (JXM-0004 ('253 patent) at 3:12-15), and "[t]he liquid crystal panel assembly 20 also includes a backlight unit 22 located at a rear side of the liquid crystal panel 21 to irradiate light thereto, and a circuit board 23 located at a rear side of the backlight unit 22 to control operation of the liquid crystal panel 21 and the backlight light 22, (JXM-0004 ('253 patent) at 5:11-16 (describing Figures 2 and 3). (RMBR. at 53; Tr. at 107:25-108:12.). Respondents provided the following annotated versions of Figures 2 and 3 of the '253 patent depicting LCD assembly 20 that includes a liquid crystal panel 21, a backlight 22, and a circuit board 23:

Figure 10 (annotated version of Figs. 2 and 3 of the '253 Patent from RMBR. at 53)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

'253 patent, Figure 1 (annotated)

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

'253 patent, Figure 2 (annotated)

Respondent also relies on extrinsic evidence. Respondent cites to [U.S. Patent Application Publication No. 2005/0219438 \(RXM-0005\)](#), which states that the "LCD module has a liquid crystal panel unit . . . and a back light unit," "[t]he liquid crystal panel unit and the back light unit are held together as one unit," and "an LCD module 10 is provided with a liquid crystal panel unit 11 and a back light unit 12." (RPMBr. at 11 (citing RXM-0005, paragraphs [0005-6])). (RMBR. at 53.). Respondent further asserts that, in the Complaint, Complainants limited the '253 patent to an LCD display because Complainants said the '253 patent "teaches an LCD visual display" and that the invention "relates to LCD displays, and that LCD display devices generally include a liquid crystal panel and a backlight unit." (Tr. at 102:1-8.).

*23 Complainants asserts that the claims recite "display panel," not an LCD, and while an LCD panel "may require a backlight, the claims are broader and encompass displays that do not require those components." (CMBR. at 17; *see also* Tr. at 104:15-106:12.). Complainants assert that the specification teaches that a display assembly can include a PDP, which does not require a backlight. (*Id.* (citing JXM-0004 ('253 patent) at 4:53-55 ("A display panel assembly, such as a flat display assembly or a PDP assembly, can be used as the LCD assembly 20.")).). With respect to the extrinsic evidence, Complainants argue that their statements in the Complaint characterizing the '253 patent as related to LCD displays just means that the Parties' dispute is about LCD displays, and so does not limit the '253 patent to just LCD displays. (Tr. at 110:12-25.). Complainants also argue that RXM-0005 "shouldn't have any bearing" because it is extrinsic evidence. (Tr. at 111:1-5.). Therefore, Complainants argue that Respondent is improperly attempting to interpret this claim term in a way that excludes disclosed embodiments. (CMBR. at 17.).

Respondent is correct that there is a presumption that different claim terms have different meanings, and so there is a presumption that "display panel" (recited in independent claim 1 of the '253 patent) has a different meaning than "display assembly" (recited in independent claim 11 and also in independent claim 1). *Amgen Inc. v. Sandoz Inc.*, 923 F.3d 1023, 1031 (Fed. Cir. 2019) ("our precedent instructs that different claim terms are presumed to have different meanings") (internal citations and quotations omitted), *reh'g granted, opinion modified*, 776 F. App'x 707 (Fed. Cir. 2019) (modifying prior opinion to delete the language "applies only in exceptional cases" from page 11, lines 20-21). But Respondents are not correct that the difference in meaning is that "display assembly" must include, in addition to a display panel, a backlight unit, and a circuit board to control the display panel and the backlight unit. To the contrary, as Complainants correctly point out, the specification teaches that the display assembly can include a PDP instead of an LCD, (JXM-0004 ('253 patent) at 4:53-55), and as discussed above in the context of the "display panel" term in claim 1 of the '117 patent, PDPs do not require backlights. (Smith Decl. at ¶ 23 (citing Boer at 197-199 (CXN-0005.0059-61) ("Because the pixel cells themselves cause fluorescence, PDPs typically do not require a backlight.")); Tr. at 50:23 (Complainants: "LCDs have backlights and PDPs do not"), 64:19-20 (Respondent: "PDPs don't have a backlight"), 65:4-7 (Question: Would a person of ordinary skill in the art say that LCDs need a backlight? Respondent's Answer: "I believe-- typically yes).). Without a backlight, the display assembly also would not need a circuit board to control the backlight. When a claim term can be interpreted consistently with the intrinsic record not to exclude disclosed embodiments, it is incorrect to interpret that claim term to exclude disclosed embodiments. *Nobel Biocare Servs. AG v. Intradent USA, Inc.*, 903 F.3d 1365, 1381 (Fed. Cir. 2018) ("we have cautioned against interpreting a claim term in a way that excludes disclosed embodiments, when that term has multiple ordinary meanings consistent with the intrinsic record"), *as amended* (Sept. 20, 2018). Therefore, Respondent's arguments are rejected.

*24 At the Hearing, Respondent conceded that this claim term can encompass a PDP and clarified that its proposed construction is really attempting to get is that the display assembly "is modular in nature and that display assembly requires more than just an electronic display." (Tr. at 113:9-14.). Complainants conceded that the claimed "display assembly" is a "module that includes a display panel," (Tr. at 104:2-4), but in their Post-Hearing Brief Complainants stopped short of fully agreeing to that construction. (CPMBr. at 16.). Complainants' only objection is that Respondent is allegedly "using a different definition of 'module' than Samsung," specifically a definition imported from an extrinsic patent application (RXN-0005). (*Id.*). Complainants argue that Respondents' new proposed construction, "module that includes a display panel," should be rejected in light of the differences in interpretation of "module" between the parties. (*Id.*). Complainants assert that rejecting Respondents' new proposed construction would avoid ambiguity. (*Id.*). Respondent largely reiterates the arguments from its initial brief, with the clarification that its proposed construction would not exclude PDPs. (RPMBr. at 18-20.).

Complainant is correct that the new proposed construction of display assembly, "module that includes a display panel," appears unobjectionable, except that the Parties dispute the meaning of the word "module." (CPMBr. at 16.). Respondent's attempt to require the presence of a backlight and a circuit board to control the backlight based on its interpretation of "module" does not comport with the specification. The portions of the specification that describe a backlight that Respondent relies on all relate to the LCD embodiment, not the PDP embodiment, and there is no dispute that the PDP embodiment would not require a backlight. (RMBR. at 51-53 and RPMBr. at 19-20 (both citing JXM-0004 ('253 patent) at 3:12-15 ("the liquid crystal panel assembly includes a liquid crystal panel . . .," 5:11-16 "[t]he liquid crystal panel assembly . . .").). Construing the claim term as Respondent proposes would allegedly encompass a PDP with a backlight, but not a PDP without a backlight, which would be nonsensical. Respondent's proposal is therefore rejected. *TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1372 (Fed. Cir. 2008) (rejecting construction that would lead to a nonsensical result). But Complainants' proposed plain and ordinary meaning, "electronic display for displaying images," is also incorrect in that Complainants attempted, as they also did with the "display panel" term in claim 1 of the '117 patent discussed above, to import the word "electronic," for which there is no support in the intrinsic record. Based on the Parties' arguments and evidence, and the intrinsic record, Respondent's proposed construction is adopted, with the clarification that nothing in the intrinsic record limits "display assembly" such that there must be a backlight and a circuit board for controlling the backlight, and also nothing in the intrinsic record supports an interpretation of "module" to require those elements.

2. Term 11: "flow control device to control the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel" ('311 Patent, independent claim 13)

Claim Term(s)	Samsung's Construction	Respondent's Construction	Adopted Construction
flow control device to control the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel	No construction necessary.	Subject to 35 U.S.C. § 112, ¶ 6	Not subject to 35 U.S.C. § 112, ¶ 6
('311 patent, independent claim 13)	Alternatively, plain and ordinary meaning, which is:	<i>Function:</i> to control the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel	Does not require construction and should be interpreted according to its plain and ordinary meaning.
	device, such as a fan, to control the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel	<i>Structure:</i> (None)	
		Indefinite under 35 U.S.C. § 112	

*25 The Parties dispute whether this claim term denotes sufficient structure to avoid application of 35 U.S.C. § 112, ¶ 6. (CMBR. at 23-25; CPMBR. at 24-26; RMBR. at 94-96; RPMBR. at 34-35.). The relevant inquiry is whether "flow control device" is a term that is "understood to describe structure" as opposed to being "simply a substitute for the term 'means for.'" *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1360 (Fed. Cir. 2004), *overruled on other grounds by Williamson v. Citrix Online, LLC*, 792 F.3d 1339 (Fed. Cir. 2015).

Complainants argue that there is sufficiently definite structure because "flow control device" is "used in common parlance or by persons of skill in the pertinent art to designate structure." (CMBR. at 23 (citing *Skky, Inc. v. MindGreek, s.a.r.l.*, 859 F.3d 1014, 1019 (Fed. Cir. 2017))).⁴ Complainants assert that the specification describes the flow control device as including "a cooling fan to blow the air to the first channel, a flow rate controller to regulate a flow rate of air in the cooling fan to control a flow velocity of the air in the channel, and temperature sensor to measure temperature of the air having passed through the first

channel and to send a resulting signal to the flow controller.” (CMBr. at 24 (citing JXM-0005 ([’311 Patent](#)) at 3:30-35; *see also id.* at 2:59-3:4 (“The flow control device may also have a flow rate controller to regulate a flow rate of air . . . [t]he flow control device may also include a temperature sensor to measure a temperature of the air having passed through the channel . . .”), 8:60-65 (“The flow control device 50 includes the cooling fan 32 to blow air to the first channel 41, the temperature sensor 52 that measures the temperature of air emerging from the first channel 41, and flow rate controller 51 that controls the cooling fan 32 according to the signal transmitted from the temperature sensor 52.”).) Finally, Complainants cite to dictionary definitions of “control” and “control device.” (*Id.* (citing CXM-0005 at ¶ 54 (Complainants’ expert Dr. Smith citing dictionary definitions); CXM-0001.0003 (Chambers Dictionary of Science and Technology); CXM-0002.0004 (The Authoritative Dictionary of IEEE Standards Terms (2000)).)

Complainants also argue that there is sufficiently definite structure as evidenced by the prosecution history. (CMBr. at 23-24; CPMBr. at 25-26.). During prosecution, the Patent Examiner issued a rejection based in-part on a finding that a prior art reference taught “a flow control device such as the fans (5a, 5b) functions as a flow control device to impart turbulence to an air flow (or to provide turbulence to air).” (JXM-0011.0191.). Complainants assert that this shows the Patent Examiner understood that “flow control device” denotes structure, and therefore also shows that a POSITA would understand the claimed “flow control device” to connote sufficiently definite structure. (CMBr. at 23-24; CPMBr. at 25-26 (citing *CDN Innovations, LLC v. Grande Commc’ns Networks*, 2021 WL 3615908, at *13 (E.D. Tex. Aug. 13, 2021)).) In *CDN Innovations*, the district court determined that the word “logic,” in the context of the claims at issue, was not a nonce word because the claims provided sufficient structure, the specification included a diagram depicting how the logic was incorporated into the proposed invention and used in a manner “identical to the depiction of other structural components employed by the invention,” and during prosecution the examiner described a prior art reference as teaching the claimed blocking logic as part of a “physical device” and later amended the claim to say that the blocking logic was embedded with another physical component. 2021 WL at *12. Respondent did not address the foregoing argument with respect to the prosecution history. (CPMBr. at 26 (“[a]s of the filing of this supplemental brief, MRI has not addressed the statements made by the examiner during prosecution”).).

*26 As Respondent points out, the Federal Circuit has held, on several occasions, that the word “device” is a “non-structural, ‘nonce’ word.” (RMBr. at 74 (citing *Robert Bosch, LLC v. Snap-On Inc.*, 769 F.3d 1094, 1099 (Fed. Cir. 2014) (determining that “program recognition device” and “program loading device” lack sufficiently definite structure) (citing *Mass. Inst. Of Tech. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006)); *Ergo Licensing, LLC v. CareFusion 303, Inc.*, 673 F.3d 1361, 1363-64 (Fed. Cir. 2012) (“control device provides no more structure than the term control means itself, rather it merely replaces the word means with the generic term device”); *Personalized Media Commc’ns, LLC v. Int’l Trade Comm’n*, 161 F.3d 696, 705 (Fed. Cir. 1998)). According to Respondent’s argument, at least two (2) district court decisions concluded that “control device” is a nonce term subject to 112(f). (RMBr. at 65; RPMBr. at 36 (citing *Syntheon, LLC v. Covidien AG*, No. 16-CV-10244-ADB, 2017 WL 4225994, at *6 (D. Mass. Sept. 22, 2017); *IPS Grp., Inc. v. CivicSmart, Inc.*, No. 17-CV-632-CAB-(MDD), 2018 WL 6567843, at *2 (S.D. Cal. Dec. 13, 2018)).

Respondents asserts that the flow control device is depicted in the specification by rectangular boxes, and is shown as separate from the “flow rate controller” (RPMBr. at 27), as shown below:

Figure 11 (Figures 2 and 10 of the [’311 Patent](#))

[’311 patent](#), Figure 2

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

[’311 patent](#), Figure 10

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

(JXM-0005 ('311 patent) at 8:49-9:23 (Figure 2 description), 9:52-10:23 (Figure 10 description)

As with "circuit board mounting part" in claims 1 and 2 of the '117 patent, above, this claim term does not contain the word "means," and so there is a rebuttable presumption that section 112, ¶ 6 does not apply. *See, e.g., Samsung Elecs. Am., Inc. v. Priusa Eng'g Corp.*, 948 F.3d 1342, 1353 (Fed. Cir. 2020) (citing *Williamson*, 792 F.3d at 1348). The presumption can be overcome by demonstrating "that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id.* at 1353-54 (quoting *Williamson*, 792 F.3d at 1349).

*27 Here, Respondent has not overcome the presumption that section 112, ¶ 6 does not apply. Although Respondent cited Federal Circuit cases wherein the word "device" was determined to be a nonce phrase and thus subject to 35 U.S.C. 112, ¶ 6, there is no general rule that "device" can never denote sufficient structure. For example, in *Inventio AG v. ThyssenKrupp Elevator Ams. Corp.*, the Federal Circuit determined the claim term "modernizing device" was not a means plus function term because the claim specified what other components the claimed "modernizing device" was connected to, what the "modernizing device" did within the device, and because dependent claims further described aspects of the claimed modernizing device. 649 F.3d 1350, 1357-59 (Fed. Cir. 2011). The specification also contained significant description of the connectivity and capability of the "modernizing device." *Id.*

Here, claim 13 recites that the flow control device comprises a fan to force air through the channel, a temperature sensor to measure the temperature of air discharged from the channel, and a flow rate controller to control the fan according to the measured temperature to regulate the flow rate of the air in the channel. (JXM-0005 ('311 patent) at 12:15-24.). A fan and a temperature sensor are both structural, and so this claim term is not subject to section 112, ¶ 6.

If this claim term is subject to § 112, ¶ 6, the Parties dispute whether this claim term renders the claim invalid for indefiniteness. "[F]or a claim element recited in means-plus-function format, 'the specification must contain sufficient descriptive text by which a person of skill in the field of the invention would know and understand what structure corresponds to the means limitation.'" *Bosch Auto. Serv. Sols., LLC v. Matal*, 878 F.3d 1027, 1039 (Fed. Cir. 2017), *as amended on reh'g in part* (Mar. 15, 2018) (quoting *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1383-84 (Fed. Cir. 2011)).

Respondent proposes, and Complainants did not dispute, that the function of the claimed "flow control device" is to "control the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel." (RMBR. at 91 (citing JXM-0005 ('311 patent) at 12:11-24); RPBBr. at 42; CMBR. at 32-33; CPMBR. at 28-29.). Respondent argues there is insufficient structure for performing this function. (RMBR. at 96-98.). Respondent asserts that the specification describes that when the control device imparts turbulence to air in the first channel, the turbulent flow may effectively remove heat incident on the front side of the liquid crystal panel. (RMBR. at 97 (citing JXM-0005 ('311 patent) at 9:3-9 ("[w]hen the flow control device 50 imparts turbulence to air in the first channel 41, the turbulent air flow may effectively remove heat incident on the front side of the liquid crystal panel 21. Accordingly, the flow control device 50 must control the cooling fan 32 such that the air in the first channel 41 has a flow velocity required to impart turbulence to the air flow"))). Respondent also asserts that the specification teaches how the "Reynolds number is an indication index to distinguish a laminar flow from a turbulent flow in a channel," provides an equation for calculating the Reynolds number based on flow velocity, hydraulic diameter, and kinematic viscosity, and teaches that Reynolds numbers of not more than 2300 are defined as laminar whereas Reynolds numbers exceeding 2300 may be considered turbulent. (*Id.* at 86, 97 (citing JXM-0005 ('311 patent) at 9:13-23.). But Respondent asserts that the specification does not describe how the flow control device calculates the variables relative to the Reynolds number and uses those to control the flow rate of air in the channel to remove heat from a front side of the panel. (*Id.*)

*28 Complainants assert that the specification describes how to calculate and achieve turbulent flow (JXM-0005 ('311 patent) at 9:3-10:23), Figures 4-7 and 9 provide tables with flow velocities and Reynolds numbers under various conditions, and teaches that the Reynolds number equation is "well known" (JXM-0005 ('311 patent) at 9:13-20). (CPMBR. at 28-29.). Complainants also assert that the claimed "flow control device" is described in the specification in structural terms. (JXM-0005 ('311 Patent) at 3:30-35; *see also id.* at 2:59-3:4 ("The flow control device may also have a flow rate controller to regulate a flow rate of

air . . . [t]he flow control device may also include a temperature sensor to measure a temperature of the air having passed through the channel . . .”), 8:60-65 (“The flow control device 50 includes the cooling fan 32 to blow air to the first channel 41, the temperature sensor 52 that measures the temperature of air emerging from the first channel 41, and flow rate controller 51 that controls the cooling fan 32 according to the signal transmitted from the temperature sensor 52.”)

Upon review of the Parties' arguments and the intrinsic evidence, it has been determined that, even if § 112, ¶ 6 applies, this claim term is not indefinite. The specification clearly ties the structure to the function of controlling “the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel.” The specification states that the flow control device “may regulate a flow rate of air in the cooling fan, which in turn, controls a flow velocity of air in the channel,” (JXM-0005 ('311 patent) at 2:7-9) and “remove[s] heat from a front side of the liquid crystal panel.” (JXM-0005 ('311 patent) at 3:27-29.) The foregoing clearly ties the “flow control device” to the function of controlling the flow rate of air in the channel to remove heat from a front side of the liquid crystal panel. Moreover, the specification describes how the flow control device controls the flow rate of air to achieve the recited function. The specification teaches that the flow control device achieves the recited function by imparting turbulence to the air in the channel, that turbulence can be determined by the Reynolds number, that the Reynolds number can be calculated from an equation based on airflow velocity, kinematic viscosity, and hydraulic diameter, and provides values for the flow velocity (4 to 14 m/s) and the channel spacing (0.005 to 0.025 meters) to achieve turbulent flow. (JXM-0005 ('311 patent) at 9:3-10:23.). Therefore, this claim term does not render the claim indefinite.

3. Term 12: control device [to control the fan to maintain a temperature of the housing] ('253 patent, independent claim 11)

Claim Term(s)	Samsung's Construction	Respondent's Construction
control device [to control the fan to maintain a temperature of the housing]	No construction necessary.	Subject to 35 U.S.C. § 112, ¶ 6
('253 Patent, claims 11, 16, 17, and 19)	Alternatively, plain and ordinary meaning, which is: device, such as a circuit or chip, [to control the fan to maintain a temperature of the housing]	<i>Function:</i> to control the fan to maintain a temperature of the housing <i>Structure:</i> (None) Indefinite under 35 U.S.C. § 112

*29 The first issue is again whether “control device” constitutes a nonce term such that it is subject to § 112, ¶ 6. Respondent argues that “control device” is a nonce term for the same reasons as put forth for the preceding “flow control device” terms. (RMBR. at 84.). Complainant argues that the claim recites sufficient structure that the POSITA would have understood that control device “refers to a single device that controls the fan.” (CMBR. at 30.). Complainant points to claim 14, which recites “the control device controls a flow rate of the air in the fan[.]” (*Id.*) Complainant also argues that the Examiner, during prosecution, understood “control device” to mean “the control device that controls the fan based on the signal from a sensor and pointed to Figure 2 of the '253 patent.” (CMBR. at 30; CPMBR. at 29.). Complainant further argues that Figures 2 and 10 depict the flow rate controller, which Complainant asserts corresponds to the “control device,” and which is described as “being a component that

is capable of receiving a signal from temperature sensor **52** and transmitting a signal to cooling fan **32** based on the temperature sensor's signal." (*Id.* (citing JXM-0004 ('253) patent at 2:44-47, 3:5-9, and 8:64-9:6).). Complainant points to the specification where it states that the flow rate controller is used to regulate a flow rate of air in the cooling fan to control a flow velocity of the air in the channel, and temperature sensor to measure temperature of the air having passed through the first channel and to send a resulting signal to the flow rate controller. (*Id.* at 31 (citing JXM-0004 ('253) patent) at 3:33-38, 2:63-3:8, and 8:64-9:6).). Finally, Complainant argues that the specification's discussion about the control device's parameters, calculation of desired and maximum flowrates, and the temperature sensor logic for adjusting the flow rate at different ambient temperatures reinforces the POSITA's understanding of the structure. (*Id.* at 32 (citing JXM-0004 ('253) patent) at Figures 4-9, 7:31-8:43, and 8:53-9:13).).

Claim 14, which Complainant relies on, states the control device "controls a flow rate of the air in the fan such that the air in the front channel has a controlled flow velocity," which again merely describes the function of the control device. Claim 17 says the control device "generates an air flow to the front channel to control a velocity of the air flow according to a state of the housing," which again merely describes the function of the control device. The specification does not remedy this deficiency. Figures 2 and 10 depict a "flow rate controller" and a "flow control device," as shown below.

Figure 12 (Figures 2 and 10 of the '311 Patent)

'311 patent, Figure 2

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

'311 patent, Figure 10

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

***30** (JXM-0004 ('253) patent) at 5:1-6:45, 9:53-10:27, Figs. 2 and 10.). The specification describes the "flow control device" as including a "cooling fan" (element 32 in the figures), a "temperature sensor" (element 52 in the figures), and a "flow rate controller" (element 51 in the figures). (*Id.* at 8:64-9:2, 10:8-17.).

The second issue is whether this claim term renders the claims invalid for indefiniteness. Respondent argues that "control device" is not described anywhere in the specification and, as such, there is no disclosure in the specification about how the "control device" performs the claimed function of controlling a fan to maintain a temperature of the housing. (RPMBr. at 39.). Complainant argues that the disclosures in the specification relating to the "flow control device" also apply to the claimed "control device." (CMBBr. at 30, 32-33; CPMBBr. at 29-30.).

At this time, this claim term will not be construed so that testimony of the parties' experts at the evidentiary hearing can assist with determining relevant issues related to the proper construction.

4. Term 13: "flow rate controller control [sic] the fan according to the measured temperature to regulate the flow rate of the air in the channel" ('311 patent, independent claim 13)

Claim Term(s)	Samsung's Construction	Respondent's Construction	Adopted Construction
flow rate controller control [sic] the	No construction necessary.	Subject to 35 U.S.C. § 112, ¶ 6	Subject to 35 U.S.C. § 112, ¶ 6

fan according
to the measured
temperature
to regulate the
flow rate of
the air in the
channel

('311 patent,
independent
claim 13)

Alternatively,
plain and
ordinary
meaning, which
is:

device, such as
a circuit or chip,
to control the
fan according
to the measured
temperature
to regulate the
flow rate of
the air in the
channel

Function: to
control the fan
according to
the measured
temperature
to regulate the
flow rate of
the air in the
channel

Structure:
(None)

Indefinite under
35 U.S.C. § 112

Function: to
control air
flow through
the channel
according to
the measured
temperature

Structure:
(None)

Indefinite under
35 U.S.C. § 112

*31 The Parties dispute whether "flow rate controller," in the context of these claims, is subject to 35 U.S.C. § 112, ¶ 6 and, if it is, then whether it is invalid for indefiniteness. (CMBR. at 34-39; CPMBR. at 28-29; RMBR. at 99-107; RPMBR. at 34-35.). Complainants say that 35 U.S.C. § 112, ¶ 6 does not apply but argue for an understanding of the two (2) claim terms based on specification language with which Respondent does not agree. Respondent argues that the claims and the specification describe the "flow rate controller" functionally and thus fail to disclose sufficient structure to avoid application of § 112, ¶ 6. (RMBR. at 99-105, RPMBR. at 42-46.).

Complainants argue that Figures 2 and 10 (element 51) depict the claimed "flow rate controller" and that the specification describes it as capable of receiving a signal from the temperature sensor (52) and transmitting a signal to the cooling fan (32) based on the temperature sensor's signal. (CMBR. at 35 (citing JXM-0005 ('311 patent) at 2:40-43, 3:1-4, 8:60-9:2, Figures 2 and 10.). Complainants also argue that, during patent prosecution, the application was amended to include a "flow rate controller" as a component of the flow control device, and that the Patent Examiner found no issues and allowed the application. (*Id.* (citing JXM-0011.0218, 225).). In other words, Complainants are relying on the examiner's silence, which is generally improper. *Prima Tek II, L.L.C. v. Polypap, S.A.R.L.*, 318 F.3d 1143, 1151 (Fed. Cir. 2003) ("[w]e note that drawing inferences of the meaning of claim terms from an examiner's silence is not a proper basis on which to construe a patent claim"). Complainants further argue that extrinsic evidence such as dictionaries show that "flow rate controller" provides sufficient structure. (*Id.* at 36; Tr. at 157:3-21.).

Based upon the foregoing reasoning and explanations, the Respondent's argument that this claim term is subject to § 112, ¶ 6 has been adopted. Unlike the "flow control device," which the specification and claims describe as comprising structural elements such as a temperature sensor and a fan, the claimed "flow rate controller" is not described with structural elements. Claim 13 only describes what the flow rate controller does, i.e. control the fan according to the measured temperature to regulate the flow

rate of air in the channel. Complainants' specification cites talk about what the flow rate controller is capable of doing (receiving a signal from the temperature sensor and transmitting a signal to the cooling fan based on the temperature sensor's signal), but do not describe the structure of the flow rate controller. (JXM-0005 ('311 patent) at 2:40-43, 3:1-4, 8:60-9:2, Figures 2 and 10.). In Figures 2 and 10 of the '311 patent, the "flow rate controller" is no more than a rectangular box. Complainants' attempted reliance on the prosecution history is also unavailing because the examiner's silence is not a proper basis for claim construction. *Prima Tek II, L.L.C.*, 318 F.3d at 1151. Because there is no structure disclosed in the claims or specification for performing the recited function, claim 13 of the '311 patent is invalid for indefiniteness.

VI. TERMS CONSTRUED IN THIS ORDER

*32 Claim terms are construed in this Order solely for the purposes of this Section 337 Investigation. Only claim terms in controversy need to be construed, and then only to the extent necessary to resolve the controversy. *Vanderlande Indus. Nederland BV v. Int'l Trade Comm.*, 366 F.3d 1311, 1323 (Fed. Cir. 2004); *Vivid Tech., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

As the Investigation proceeds, including during the evidentiary hearing ("Hearing") scheduled to be held **October 4-6 and 10-11**, the Parties will be limited to the constructions adopted in this Order unless they have been instructed otherwise. If for some reason, the Parties decide that additional claim constructions are necessary, they should so advise at the start of the Hearing, together with written submissions that explain in some detail why such additional claim constructions have not been waived. Ground Rule 1.14 states that "[t]he parties will be bound by their claim construction positions set forth on the date they are required to submit a joint list showing each party's final proposed construction of the disputed claim terms and will not be permitted to alter these absent a timely showing of good cause." Modified or new constructions set forth for the first time in post-hearing briefs will be considered waived unless a party agrees with the other on a construction, thereby conceding its position.

Similarly, it will not be appropriate for any party to seek additional claim construction during the Hearing except as described above, and certainly not to state merely that a claim term that may be implicated in an expert report or expert testimony has a "plain or ordinary" meaning. (See G.R. 1.14.). If any party posits a "plain and ordinary meaning," it must be explained with a detailed rationale. More to the point, there should not be any new, let alone previously disclosed claim terms that have an alleged "plain and ordinary" meaning without clear explanations. *Ipse dixit* arguments are not sufficient.

VII. PROCEEDINGS GOING FORWARD

A. Supplementation in Response to This Order

No re-argument of the claims construed in this Order may occur.

The Parties should notify Chambers of any issues that have become moot or have been eliminated for any reason through a filing on EDIS and raise this during the Pre-Hearing Conference on October 4, 2023 (or as specified during the Pre-Hearing Conference. The Parties' required post-hearing outlines that must identify any issues, claims, defenses, prior art, theories, or any other content that was originally asserted or argued, should identify all issues or contentions and claims that have been dropped or become moot for any reason.

The Parties should redact from expert reports they intend to use during the Hearing, and from any other documents upon which they intend to rely, any issues, claims, defenses, prior art, theories, or any other content that has been rendered moot or disallowed as a result of this or other Orders, or termination from this Investigation of patent claims or allegations. The Parties must file on EDIS any expert reports or other documents upon which they intend to rely that have been redacted for the reasons stated above, and send copies to Chambers via McNamara337@usitc.gov.

B. Streamlining the Investigation

*33 To the extent that this *Markman* Order will enable the Parties to streamline the Investigation, the Parties are encouraged to resolve promptly each issue in this Investigation for which there is no reasonable dispute or little, or weak, evidentiary support.

C. Settlement

It is strongly recommended that the Parties take informal opportunities to engage in settlement.

VIII. CONCLUSION

Constructions of the disputed claim terms are hereby adopted by this Order.

SO ORDERED.

MaryJoan McNamara
Administrative Law Judge

Footnotes

- 1 At issue in this Investigation are: U.S. Patent No. RE45,117 ("the '117 patent"), U.S. Patent No. 8,842,253 ("the '253 patent"), and U.S. Patent No. 8,223,311 ("the '311 patent"). See, e.g., 88 Fed. Reg. 1404 (Jan. 10, 2023); Order No. 22.
- 2 On April 13, 2023, Complainants filed an unopposed motion for leave to refile their initial *Markman* brief, with some corrections, out of time. (Motion Docket No. 1349-002.). The Motion was granted. (Order No. 9 (April 14, 2023).). All discussion herein of Complainants' initial *Markman* brief refers to the corrected version filed on April 13, 2023.
- 3 *Coprecitec* is a district court decision where the court determined that the claim language not only provided "the physical relationship of the two 'parts' and the 'rotatable structure,' but also provides significant structural features that make clear the terms are not used in a purely functional manner." 2013 WL at *3.
- 4 In *Skyy*, the Federal Circuit affirmed the Patent Trial and Appeal Board's determination that "wireless device means" did **not** invoke § 112, ¶ 6 because the full claim term recited structure, not functionality, the claim did not recite a function or functions for the wireless device means to perform, and because "wireless device means" was used in common parlance to designate structure. 859 F.3d at 1020.

USITC Inv. No. 337-TA-1349 (U.S.Intern.Trade Com'n), USITC Order No. 28, 2023 WL 6551036