

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

COMMISSARIAT À L'ENERGIE	:	
ATOMIQUE,	:	
	:	
Plaintiff,	:	
	:	
v.	:	Civil Action No. 03-484-MPT
	:	
SAMSUNG ELECTRONICS CO., et al.,	:	CONSOLIDATED CASES
	:	
Defendants.	:	

MEMORANDUM ORDER

INTRODUCTION

This is a patent infringement case. On May 19, 2003 Commissariat à l'Énergie Atomique ("CEA") filed a complaint against Samsung Electronics Co., Ltd. ("Samsung"), and others, for infringement of United States Patent Nos. 4,701,028 ("the '028 patent") and 4,889,412 ("the '412 patent") (collectively "the patents-in-suit").¹ The '028 patent and the '412 patent are directed to technology involving the design and manufacture of liquid crystal displays ("LCDs") and related products.² An LCD is a type of flat panel display that is used in products such as computer monitors.³

On October 3, 2007 the court issued its Claim Construction Memorandum Order (D.I. 1076) construing certain claim terms of the patents-in-suit. Currently before the court is Samsung's motion for summary judgment that claims 3-5 of the '412 patent are

¹ D.I. 1. CEA has since filed amended complaints, but the patents-in-suit remain the same. See D.I. 371; D.I. 373; D.I. 379.

² D.I. 1 at 2.

³ *Id.*

invalid as anticipated under 35 U.S.C. § 102(b).⁴ For the reasons stated below, Samsung's motion is denied.

STANDARD OF REVIEW

A grant of summary judgment pursuant to Federal Rule of Civil Procedure 56(c) is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to judgment as a matter of law."⁵ This standard is applicable to patent cases.⁶ A Rule 56(c) movant bears the burden of establishing "that there is an absence of evidence to support the nonmoving party's case."⁷ The nonmovant must be given the benefit of all justifiable inferences and the court must resolve any disputed issue of fact in favor of the nonmovant.⁸

POSITIONS OF PARTIES

Samsung argues that a 1972 publication, Soref et al., *Electrically Controlled Birefringence of Thin Nematic Films*, J. Appl. Phys., Vol. 43, No. 5, May 1972 (hereinafter "Soref"), is invalidating prior art which discloses each of the elements of claims 3-5 of the '412 patent.

⁴ D.I. 678 (Defendants AU Optronics Corporation's, Samsung Electronics, Co., LTD.'s and Chi Mei Optoelectronics Corp.'s ("Defendants") Motion for Summary Judgment of Non-Infringement of Claims 3-5 of U.S. Patent No. 4,889,412 or, in the Alternative, Invalidity of Claims 3-5 of Patent No. 4,889,412). This memorandum order addresses the parties' arguments concerning the invalidity of claims 3-5 of the '412 patent. The parties' arguments concerning non-infringement of claims 3-5 of the '412 patent are addressed in a separate memorandum order. Since briefing on this motion, the other defendants referenced in the title of the motion under consideration are no longer parties to this litigation. Samsung is the sole remaining defendant and has proceeded with this motion. Therefore, the court's reference to "Samsung" will be understood as referring to any particular former-defendant's arguments and/or experts.

⁵ Fed. R. Civ. P. 56(c).

⁶ *Johnson v. IVAC Corp.*, 885 F.2d 1574, 1576-77 (Fed. Cir. 1989).

⁷ *Celotex Corp. v. Catrett*, 477 U.S. 317, 325 (1986).

⁸ *Eastman Kodak Co. v. Image Technical Servs., Inc.*, 504 U.S. 451, 456 (1992).

CEA contends that Soref does not disclose all of the elements of claims 3-5. Among other purported missing elements, CEA argues that “it is unclear from the *Soref* reference whether a[n] HN38 polarizer was used in the transmissive type [electrically controlled birefringence]” illustrated in that reference.⁹ CEA also maintains that testimony relied on by Samsung regarding the HN38 polarizer disclosed in Soref raises questions of fact which preclude summary judgment.

DISCUSSION

“A patent shall be presumed valid. Each claim of a patent (whether in independent, dependent, or multiple dependent form) shall be presumed valid independently of the validity of other claims; dependent or multiple dependent claims shall be presumed valid even though dependent upon an invalid claim.”¹⁰ “To overcome this presumption of validity, the party challenging a patent must prove facts supporting invalidity by clear and convincing evidence.”¹¹

The patent statute provides that “a person shall be entitled to a patent unless . . . the invention was patented or described in a printed publication in this or a foreign country . . . more than one year prior to the date of the application for patent in the United States.”¹² In order to anticipate, a single prior art reference must disclose each and every limitation of the claimed invention, either expressly or inherently.¹³ Although anticipation is a question of fact, it may be decided on summary judgment if there is no

⁹ D.I. 807 at 32.

¹⁰ 35 U.S.C. § 282.

¹¹ *Schumer v. Lab. Computer Sys., Inc.*, 305 F.3d 1304, 1315 (Fed. Cir. 2002).

¹² 35 U.S.C. § 102(b).

¹³ *Telemac Cellular Corp. v. Topp Telecom, Inc.*, 247 F.3d 1316, 1327 (Fed. Cir. 2001).

genuine dispute of material fact on the record.¹⁴ There must be no difference between the claimed invention and the reference disclosure as viewed by a person of ordinary skill in the field of the invention.¹⁵ Determining whether the claims of a U.S. patent are anticipated is a two-step process. The claims are first interpreted to determine their scope. Next, the properly-construed claims are compared to the anticipatory reference.¹⁶

Samsung argues that Soref is a 35 U.S.C. § 102(b) invalidating prior art reference. Samsung supports its anticipation contentions with the Declaration of Dr. lam-Choon Khoo.¹⁷ Specifically, Samsung argues that it moves “for summary judgment of invalidity to the extent that CEA is accusing layers of triacetate of cellulose (‘TAC’) or cellulose acetate butyrate (‘CAB’) as constituting the ‘uniaxial medium’ required by claims 3-5.”¹⁸ Samsung contends that “TAC and CAB layers have been included in commercial polarizers as protective films sold in the United States more than 1 year prior to the filing of the ‘412 patent including, but not limited to, the Polaroid HN 38 polarizers. A device meeting all of the limitations of claims 3-5 is shown in Soref”¹⁹

Claim 3 of the ‘412 patent depends from claim 2, which in turn depends from claim 1. Claim 1 of the ‘412 patent recites:

A liquid crystal cell assembly using the electrically controlled birefringence effect and having spaced apart sides, one of which is exposed to an incident light, said assembly comprising:

¹⁴ *Id.*

¹⁵ See *Scripps Clinic & Res. Found. v. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991).

¹⁶ *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed. Cir. 2003).

¹⁷ D.I. 681, Ex. 4 (“Khoo Declaration”).

¹⁸ D.I. 679 at 1.

¹⁹ *Id.*

a nematic liquid crystal molecular layer of positive optical anisotropy;

at least two electrodes, one on either side of said liquid crystal layer, with the electrode located on said one side exposed to incident light being transparent;

the molecules of said liquid crystal layer being substantially oriented in a homeotropic direction in the absence of a voltage between said electrodes;

at least one means for polarizing said incident light located on said one side exposed to said incident light; and

at least one layer of medium for compensating the birefringence of said nematic liquid crystal layer in its homeotropic structure for improving oblique observation of said cell, said medium having three principal optical indices each corresponding to an axis, one of said indices being weaker than the other two indices, and that axis which corresponds to said weak index being parallel to said homeotropic direction.

Claim 2 of the '412 patent recites:

A cell according to claim 1, wherein the said electrodes are transparent, wherein the cell comprises two complementary polarizing means located on either side of said electrodes and wherein said compensating medium layer is located between at least one of said polarizing means and said electrode adjacent thereto.

Claim 3 of the '412 patent recites: "A cell according to claim 2, wherein the two polarizing means are crossed rectilinear polarizers and wherein the compensating medium is uniaxial medium of negative optical anisotropy having an axis of symmetry parallel to the homeotropic direction and an extraordinary axis parallel to said axis of symmetry."

Claim 4 of the '412 patent recites: "A cell according to claim 3, wherein the compensating medium layer is produced from a polymer material."

Claim 5 of the '412 patent recites: "A cell according to claim 4, where the polymer is thermoplastic."

Because claims 3-5 are multi-dependant from claim 1 and dependant (claim 3) or multi-dependant (claims 4 and 5) from claim 2, Samsung must establish that Soref discloses each of the elements of claims 1 and 2, in addition to the elements of claims 3-5.

In its briefs in support of the current motion, Samsung does not include an element-by-element analysis of Soref with respect to the elements of claims 1 and 2. Samsung's briefing cites to the Khoo Declaration in which Khoo states that based on a review of the Soref reference, the deposition testimony of Dr. James Racich, and the expert report of Scott Stoeffler to arrive at his conclusion that: "[t]o the extent that CEA accuses TAC or CAB films of constituting the 'uniaxial medium' of claim 3 of the '412 patent, then the Soref reference contains all the elements / limitations of Claims 3-5 of the '412 patent. Therefore, it anticipates claims 3-5 of the '412 patent."²⁰

Attached to the Khoo Declaration is a claim chart, at Tab C, listing the elements of claims 1-5 of the '412 patent and citations to pages of the Soref reference which purportedly disclose each element. With regard to the motion under consideration, these page citations do not provide clear and convincing evidence of anticipation. As an example, one element of claim 1 of the '412 patent requires "a nematic liquid crystal molecular layer of positive optical anisotropy." Khoo's claim chart states that "Soref discloses the use of Schiff base liquid crystal materials which exhibit positive optical anisotropy. Page 2032."²¹ The court reviewed page 2032 of Soref and found the apparent reference to Schiff base liquid crystal materials. The paragraph containing

²⁰ D.I. 681, Ex. 4, ¶ 15.

²¹ D.I. 681, Ex. 4, Tab C.

that reference recites:

The liquid-crystal materials used in these experiments were mixtures of aromatic Schiff-base compounds. The mixtures had *negative dielectric anisotropy*, and all of them exhibited electrically controlled birefringence despite their chemical differences. The anisotropy criterion appears more important for the existence of electrically controlled birefringence than the detailed chemical makeup of the nematic.²²

Neither Samsung's briefing, or Khoo's Declaration, explain how this quotation (or other language and figures on page 2032 of Soref) discloses "a nematic liquid crystal molecular layer of positive optical anisotropy." Because a prior art reference must disclose each and every claim limitation to anticipate, the court could deny Samsung's motion based on this element alone. The court will, however, discuss certain remaining questions of fact relating to claim 3 of the '412 patent which also preclude summary judgment.

Khoo opines that if TAC or CAB films constitute the "uniaxial medium" of claim 3, Soref discloses that element through its reference to a Polaroid HN38 polarizer. Khoo bases that opinion on the testimony of Racich and the expert report of Stoeffler. Racich worked at Polaroid until mid-1985 and during his employment obtained, and kept for his personal purposes, samples of Polaroid polarizers, including an HN38 polarizer. Racich sent an HN38 polarizer to Stoeffler for optical analysis.

The court determines, aside from any deficiency in Samsung's evidence with regard to the elements of claims 1 and 2 of the '412 patent, that questions of fact concerning the "uniaxial medium" element of claim 3 also preclude summary judgment. The first question of fact relates to the integrity of the sample polarizers possessed by

²² D.I. 681, Ex. 4, Tab A at 2032 (emphasis added).

Racich, including the HN38 polarizer sent to Stoeffler for analysis.

Racich testified that he had kept samples of polarizers for liquid crystal he obtained while working at Polaroid in 1985 or earlier.²³ He stated that those samples were kept in damp basements and later in a non-climate controlled garage subject to high temperatures.²⁴ When subsequently questioned about the possible affect of the conditions in which samples in his possession had been stored on those substrate layers Racich testified “[t]here is probably some change in the substrate layers. Whether it’s completely negligible or whether it’s small, *I don’t know*. Looking at samples like this[, sample that was tested by Stoeffler], I *think* it’s small. . . . This looks rather much like what a new product would look like.”²⁵ In describing other of his samples stored with the tested sample, he stated “[t]hese samples are a little more arguable. Some of these polarizers have seen so much change that, perhaps, these are somewhat more changed than this one is, but—but it depends.”²⁶ With regard to the substrate of the tested sample had been affected by temperature or humidity, he stated “It’s—not that I can see. Nothing gross or obvious, no. Obviously, *there are ways of digging a little deeper into it*, but there’s nothing that I see, no.”²⁷ He also acknowledged that his comments concerning the condition of the samples were made based on his “evaluation by the naked eye.”²⁸

Based on this testimony and giving CEA the benefit of all justifiable inferences,

²³ D.I. 848, Ex. 5 at 14, 21 (Racich deposition transcript).

²⁴ *Id.*, Ex. 5 at 15, 40.

²⁵ *Id.*, Ex. 5 at 81-82 (emphasis added).

²⁶ *Id.*, Ex. 5 at 83.

²⁷ *Id.*, Ex. 5 at 83 (emphasis added).

²⁸ *Id.*, Ex. 5 at 83-84.

the court determines that there is at least a question of fact concerning the integrity of the HN38 polarizer sheet sent by Racich to Stoeffler for analysis. Even if the court were to assume no degradation of that sample, Stoeffler's report indicates there is at least one other question of fact regarding whether an HN38 polarizer sheet anticipates the "uniaxial medium" element of claim 3 of the '412 patent.²⁹

In his analysis, Stoeffler states that "there is no *or virtually no difference* between the refractive index in the X direction of the sheet and the refractive index in the Y direction."³⁰ During claim construction, Samsung argued for a definition of "uniaxial medium" wherein the optical indices of the X and Y axes are equal. The court agreed and, in its October 3, 2007 claim construction order, construed "uniaxial medium" to mean "a type of birefringent material wherein the values of two of the principal optical indices (called the ordinary indices) are *equal to each other* and the third optical index (called the extraordinary index) has a different value."³¹ Based on Stoeffler's report, there is a question of fact as to whether an HN38 polarizer sheet meets this construction and, therefore, whether Soref discloses the "uniaxial medium" of claim 3 of the '412 patent.

Moreover, claim 3 requires the "uniaxial medium" to be of "negative optical anisotropy." As propounded by Samsung, the court construed "negative optical

²⁹ The HN38 polarizing sheet sent to Stoeffler by Racich consists of "a thin polarizing layer between two thicker layers of clear cellulose acetate butyrate (CAB) . . . [Stoeffler was asked] to determine whether the refractive indices for the CAB . . . layers were higher in the X-Y plane of the layer or in the Z (thickness) direction, and whether there was any difference between the indices in the X and Y directions . . . [as well as to] attempt to determine specific refractive indices for the CAB . . . layers." D.I. 681, Ex. 4 Tab B at 1.

³⁰ D.I. 681, Ex. 4, Tab B at 2 (emphasis added).

³¹ D.I. 1076 at 14-17 (emphasis added).

anisotropy” to mean “a characteristic of a birefringent material wherein the values of two of the three principal optical indices (called the ordinary indices) are equal to each other and the third optical index (called the extraordinary index) *is less than the other two.*”³² Stoeffler’s report states that “[t]he refractive index in the X-Y direction was determined to be 1.485 ± 0.001 and the refractive index in the Z direction was determined to be 1.484 ± 0.001 .”³³ Given the range of plus or minus 0.001 for the X-Y direction and the Z direction, Stoeffler’s report indicates the possibility that the refractive index in the X-Y direction could be 1.484 (0.001 less than the determined 1.485 figure for that direction) and that the refractive index in the Z direction could be 1.485 (0.001 greater than the determined 1.484 for that direction). Were that the case, the HN38 polarizer sheet would not meet the “negative optical anisotropy” requirement of claim 3. There is at least a question of fact, therefore, as to whether this element is disclosed in the Soref reference. Because there is a question of fact as to whether claim 3 is anticipated, the court need not address whether the additional elements claim 4 (which depends from claim 3) or claim 5 (which depends from claim 4) are disclosed in Soref.

Consequently, the court determines that Samsung has failed to establish by clear and convincing evidence that claims 3-5 of the ‘412 patent are invalid under 35 U.S.C. § 102(b) as anticipated by Soref.

CONCLUSION

At Wilmington, this 2nd day of November, 2007:

For the reasons stated above:

³² *Id.* at 18-19.

³³ D.I. 681, Ex. 4, Tab B at 2.

IT IS ORDERED and ADJUDGED that Samsung's motion for summary judgment of invalidity of claims 3-5 U.S. Patent No. 4,889,412 (D.I. 678) is **DENIED**.



UNITED STATES MAGISTRATE JUDGE