UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MANUFACTURING RESOURCES INTERNATIONAL, INC.
Petitioner

v.

SAMSUNG ELECTRONICS CO., LTD.
Patent Owner

Patent No. 8,842,253
Filing Date: February 28, 2013
Issue Date: September 23, 2014
Liquid Crystal Display Device Having Air Conditioner

Inter Partes Review No. IPR2023-01203

REPLY TO PATENT OWNER'S PRELIMINARY RESPONSE

Petitioner submits this Reply as authorized by the Board on December 18, 2023 to address Patent Owner's testimonial evidence of Dr. Smith (Ex. 2008) cited in the Preliminary Responses. The Board should give little if any weight to Dr. Smith's testimony and arguments based on that testimony. Dr. Smith is not credible as an expert at least because (1) he has no thermal management experience and is thus not of skill in the art, (2) his testimony omits key sections of the prior art and then relies on those omissions to mischaracterize other disclosures, and (3) he applies the wrong legal standard in his analysis of obviousness.

First, "[t]o offer expert testimony from the perspective of a skilled artisan in a patent case . . . a witness must at least have ordinary skill in the art." *Kyocera Senco Indus. Tools v. ITC*, 22 F.4th 1369,1376-77 (Fed. Cir. 2022). The '253 patent is directed "to a liquid crystal display device with a heat dissipation structure to cool a liquid panel of the device." Ex. 1001, 1:21-23. Accordingly, the agreed definition of a person of skill in the art includes "one or two years of graduate school training or one to two years of industry experience in the fields of mechanical design, fluid mechanics, heat transfer, or electronics cooling." Pet., 1. Dr. Smith's summary of his relevant experience (Ex. 2008, ¶¶ 11-15) makes no mention of thermal management. In fact, he admitted during the ITC hearing that he has no experience with thermal management or temperature sensors. Ex. 1014, 1271:24-1272:14; 1283:2–1284:13. Dr. Smith has ***never*** designed, developed, or even selected a

temperature sensor for use in a liquid crystal display device. *Id.*, 1283:2–9. Nor does Dr. Smith have ***any*** coursework experience—whether in his teaching work or as a student himself—with respect to any temperature sensors used in liquid crystal display devices. *Id.,* 1283:10–1284:13. Thus, Dr. Smith's conclusory testimony regarding temperature sensors, e.g., his suggestion that "the claimed temperature sensor is not a simple design choice" (Ex. 2008, ¶ 73), should be given little weight, and the arguments it purports to support should be rejected.

Second, Dr. Smith mischaracterizes Karppanen '125 (Ex. 1008), omitting a sentence that refutes his faulty claim that the temperature of the "physical elements of the information board rather than the temperature of any air inside the frame 40" is measured. Ex. 2008, ¶ 79. The actual quote from Karppanen '125—with the sentence Dr. Smith ignores emphasized—is:

> [A] circulating air flow running through the device and display casing is generated with the help on which the temperature of the casings is maintained within desired limits. <u>The circulating air flow rinses the surface of the parts that warm up, such as that of the display element, whereupon the ***heat transfers*** effectively from the warming-up components ***directly to the air flow***</u>. In the device and display casing are placed transducers (not shown in the figures) that ***measure the temperature*** and are connected to the control unit in the device casing of the information board.

Ex. 1008, 9:10-16 (emphasis added; omitted sentence underlined). Thus, contrary to Dr. Smith's testimony, Karppanen '125 discloses that "heat transfers . . . directly to the air flow" and the "transducers . . . measure the temperature" of the airflow. Dr. Smith's attempt to omit a directly relevant sentence confirms that his testimony should be discounted.

Third, Dr. Smith's testimony applies incorrect legal standards. In his analysis of the Utsonomiya and Nagayama combination, Dr. Smith myopically focuses on the specific problems that he says each reference solves. Ex. 2008, ¶¶ 106-114. And his analysis relies solely on his opinion that these two references "seek[] to solve different problems." *Id.,* ¶ 106. But this is not the proper analysis. Rather, "***any*** need or problem known in the field of endeavor at the time of invention and addressed by the patent can provide a reason for combining the elements in the manner claimed." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 420 (2007) (emphasis added). Dr. Smith's analysis of the Karppanen '125 and Utsunomiya combination is similarly flawed as he relies on his opinion that "[t]he objectives of Karppanen '125 and Utsunomiya also differ considerably." 2008, ¶ 116.

Dr. Smith's testimony should be given little, if any, weight in particular at the institution stage where Petitioner cannot depose Dr. Smith. Samsung's attorney argument that this faulty testimony purports to support should similarly be rejected.

Respectfully submitted,

/s/ John C. Alemanni
John C. Alemanni
Reg. No. 47,384
Lead Counsel for Petitioner

CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this **Reply to Patent Owner's Preliminary Response** has been served by email upon the following:

GOODWIN PROCTER LLP
Linnea Cipriano, lcipriano@goodwinlaw.com
Doug Kline, dkline@goodwinlaw.com
Srikanth Reddy, sreddy@goodwinlaw.com
Naomi L. Birbach, nbirbach@goodwinlaw.com
Patrick J. McCarthy, pmccarthy@goodwinlaw.com
DG-SamsungOFFENSIVEITC@goodwinlaw.com

Dated: December 27, 2023

By: */s/ John C. Alemanni*
John C. Alemanni
Reg. No. 47,384