

U.S. Patent No. 8,842,253

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

U.S. Patent No. 8,842,253

Case No. IPR2023-01203

**SUR-REPLY TO PETITIONER'S REPLY TO PATENT OWNER'S
PRELIMINARY RESPONSE**

Samsung submits this Sur-Reply to MRI's Reply to Patent Owner's Preliminary Response as authorized by the Board on December 18, 2023. MRI's three arguments regarding Dr. Smith's qualifications and testimony are incorrect, and the Board should weigh Dr. Smith's opinions as set forth in his declaration.

First, Dr. Smith qualifies as a person of skill in the art (POSITA) under MRI's proposed definition. MRI proposed that the POSITA "would have had at least a Bachelor of Science degree in mechanical engineering, electrical engineering, or a similar degree with 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., 7. MRI further stated that "[l]ack of work experience could have been remedied by additional education, and vice versa." *Id.* Nothing in this definition requires, as MRI now contends, that the POSITA have "thermal management experience." Regardless, MRI misrepresents Dr. Smith's testimony; Dr. Smith does have thermal management experience, and he has also selected temperature sensors. Ex. 1014, 1272:20–23; 1283:8–9. Dr. Smith has a Ph.D. in the field of imaging science, a discipline that combines physics, math, computer science, and engineering and is similar to mechanical or electrical engineering, and has many years of industry experience. *See* Ex. 2002; Ex. 2008,

¶¶ 10–15. Thus, Dr. Smith is indisputably qualified as a POSITA, and MRI’s attempts to discredit Dr. Smith should be rejected.¹

Second, MRI’s argument that Dr. Smith allegedly “mischaracterizes” Karppanen ’125 (Ex. 1008) is baseless. Dr. Smith did not “omit” the quoted sentence from his recitation of the disclosure of Karppanen ’125—it is included in the paragraph prior to the one cited by MRI. *See* Ex. 2008, ¶ 78. Regardless, there is no dispute that Karppanen ’125’s system operates as described in the sentence that MRI emphasizes, i.e. that heat is transferred from the components in Karppanen ’125’s system to the airflow. *See* Ex. 1008, 9:11–14 (“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”). This sentence, however, does not impact the proper interpretation of the location of the sensor in Karppanen ’125. The passage at issue does not describe that the transducers measure the temperature of airflow as MRI contends. Rather, it describes how heat is transferred out of Karppanen ’125’s system and further confirms Karppanen ’125’s emphasis on measuring the temperature of the

¹ While Samsung does not dispute the definition of a POSITA for purposes of its Preliminary Response (*see* POPR, 5), Dr. Smith set forth his opinion regarding the POSITA. Ex. 2008, ¶ 25. He likewise qualifies as a POSITA under this definition.

“warming-up components.” *See* Paper 6 (“POPR”), 34–46. Based on Karppanen ’125’s disclosure as a whole, a POSITA would have understood that the transducers measure the temperature of the physical elements of the electronic information board rather than of the air inside the frame. *Id.*; Ex. 2008, ¶¶ 78–79.

Third, Dr. Smith did not apply “incorrect legal standards.”² His analysis properly explained that a POSITA would not have appreciated a reason to combine these references. *See In re Nuvasive, Inc.*, 842 F.3d 1376, 1382 (Fed. Cir. 2016) (there must be “a reason why a PHOSITA would combine the prior art references.”). In any event, it is MRI’s burden to set forth the requisite motivation to combine, which it failed to meet. *See, e.g., Lab’y Corp. of Am. Holdings v. Ravgen, Inc.*, No. IPR2021-00902, 2022 WL 16579960, at *14 (P.T.A.B. Nov. 1, 2022) (“[W]e agree . . . that Petitioner has not carried its burden to establish that a POSA would have been motivated to [combine the prior art].”); *see also* POPR, 24–25; 44–46.

Thus, the Board should afford weight to Dr. Smith’s testimony and deny institution for the reasons set forth in Samsung’s Preliminary Response.

² Notably, MRI’s Petition did not rely on “any need or problem known in the field” to establish an alleged motivation to combine Utsunomiya and Nagayama or Utsunomiya and Karppanen ’125. MRI’s attempt to supplement the record under the guise of responding to Dr. Smith’s testimony should be rejected.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e)(4), the undersigned certifies that a true and correct copy of SUR-REPLY TO PETITIONER'S REPLY TO PATENT OWNER'S PRELIMINARY RESPONSE was provided via email to the Petitioner by serving the correspondence email addresses of records as follows:

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