

U.S. Patent No. RE45,117

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. RE45,117

Case No. IPR2023-01201

**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 arguments regarding Dr. Smith's testimony about the scope of claims of the '117 Patent are baseless and should be rejected.

First, MRI improperly attempts to broaden claim 1 through claim differentiation in order to bring its prior art closer to within the claim scope. But claim differentiation cannot be used to "broaden claims beyond their meaning in light of the patent as a whole, and it cannot override clear statements of claim scope found in the specification and prosecution history." *Poly-America, L.P. v. API Industries, Inc.*, 839 F.3d 1131, 1137 (Fed. Cir. 2016). The '117 Patent's specification makes clear that the invention solves the "inter-heating" issue in the prior art by using two cooling fluid paths that do not mix and have separate entries and exits. *See* Ex. 1001, 1:43–59, 3:24–46, 4:12–15, Fig. 1; *see also* POPR, 17–20; Ex. 2001, ¶¶ 74–76. This is the only description of the separate fluid cooling paths—there is no suggestion that the two cooling fluid paths could share inlets or outlets or that the airflow in the two cooling fluid paths could mix. Further, claim 11 is a separate independent claim, from which claim 23 depends. The Federal Circuit has routinely declined to apply claim differentiation based on independent claims that are not identical in scope, as is the case here. *See Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1358 (Fed. Cir. 2016) (declining to apply claim

differentiation where the independent claims “are not otherwise identical in scope.”); *Atlas IP, LLC v. Medtronic, Inc.*, 809 F.3d 599, 606–07 (Fed. Cir. 2015) (rejecting the claim differentiation argument “invoked based on independent claims.”). Therefore, applying MRI’s claim differentiation argument would improperly broaden claim 1 beyond the specification’s description of the invention’s separate fluid cooling paths. *Poly-America*, 839 F.3d at 1137; *see also Cave Consulting Group, LLC v. OptumInsight, Inc.*, 725 F. App’x 988, 995 (Fed. Cir. 2018).

Second, MRI falsely accuses Dr. Smith of limiting claim 1 to the embodiment of Figure 1. On the contrary, Dr. Smith merely cited Figure 1 to explain why Petitioner’s reading of the claims is inaccurate and to illustrate the proper understanding of the claims, specifically that separate cooling paths means they do not mix. *See Medicines Co. v. Mylan, Inc.*, 853 F.3d 1296, 1304–06 (Fed. Cir. 2017) (holding claims require “efficient mixing” despite not expressly reciting “efficient mixing” because the case involved “specifications that in all respects tell us what the claims mean.”). Dr. Smith’s opinions were based on his understanding of the meaning of the claims *in light of the specification* as a whole. Further, Dr. Smith relied on other portions of the specification—not just Figure 1—to support his opinion. *See* Ex. 2001, ¶¶ 74–76 (*citing* Ex. 1001, 3:32–38, 4:12–14). Thus, MRI’s argument that Dr. Smith is importing a limitation from Figure 1 is incorrect.

Third, Dr. Smith did not mischaracterize the '117 Patent's discussion of JP2006-162641 ("JP '641"). The '117 Patent describes the prior art's inter-heating problem exemplified by JP '641 and solves it by separating the two cooling paths by giving each its own entry and exhaust points. Ex. 1001, 1:43–59, 3:24–46, 4:12–15, Fig. 1. Notably, MRI fails to acknowledge that the display described in JP '641 and shown in Figure 1 has a configuration that is very similar to MRI's key prior art references Takahashi and Nagayama. To the extent MRI argues that JP '641 does not keep the heat generating components separate, neither do Takahashi and Nagayama and MRI's arguments fail.

Finally, Dr. Smith considered Dr. Meinhart's alleged motivations to combine teachings from references that address different problems specific to certain display types and explained why the combinations would fail. *See* Ex. 2001, ¶¶ 68–70, 111–12. For example, combining the display and device cases of Karppanen '116 with Takahashi's alleged teaching of mounting a circuit board to a rear cover would physically conflict with Takahashi's spacers. *Id.*, ¶ 70. Similarly, adding the exhaust openings suggested by Kaneko to Nagayama's device box could damage the display and make inoperable the protective sealing contemplated by Nagayama's device box. *Id.*, ¶¶ 111–12.

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

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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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