

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

XU PEICHENG (HONG KONG) OPTOELECTRONIC
TECHNOLOGY CO., LIMITED,
Petitioner

v.

SEMISILICON TECHNOLOGY CORP.,
Patent Owner

Case IPR2024-00156
Patent 8,884,546 B2

**PETITIONER'S RESPONSIVE
POST-HEARING SUPPLEMENTAL BRIEF**

I. “SYNCHRONOUS SIGNALS”

A. The ’546 Patent ONLY Discloses So-Called “Propagation Delays,” Which Debunks Patent Owner’s Validity Argument

Patent Owner, yet again, tries to distinguish the prior art’s disclosure of “synchronous signals” because of Dr. Lebby’s identification of so-called “propagation delays.” (Paper 29 at 3.) Patent Owner does not (and cannot) dispute, however, that ALL of the ’546 patent’s embodiments disclose the same purported “propagation delays,” which Dr. Schubert explained are on the order of a few nanoseconds (EX1010, ¶¶ 25-26)). (See Paper 29 at 3 (acknowledging Petitioner’s argument that the ’546 patent only discloses the same “propagation delays” without disputing that fact); EX1010, ¶¶ 27-28 (Dr. Schubert opining, with reference to Figure 7 in the ’546 patent, that “the physical limitations that Dr. Lebby argues distinguish the prior art from meeting the ‘synchronous signals’ limitation equally affect all illustrated embodiments of the ’546 patent”).)

For “propagation delays” on the order of a few nanoseconds to be relevant to the scope of the “synchronous signals” term, the scope of this term must be construed as expressly excluding any wired connections between slave control units. But since there is no dispute that the ’546 patent ONLY discloses the same alleged wired propagation delays that Dr. Lebby criticizes the prior art over (*see, e.g.*, EX1001 at Figs. 8-9), such a construction would violate the longstanding principle that “[a] claim construction that excludes the preferred embodiment ‘is rarely, if ever, correct

and would require highly persuasive evidentiary support.” *Adams Respiratory Therapeutics, Inc. v. Perrigo Co.*, 616 F.3d 1283, 1290 (Fed. Cir. 2010); *see also In re Katz Interactive Call Processing Pat. Litig.*, 639 F.3d 1303, 1324 (Fed. Cir. 2011) (“[T]here is a strong presumption against a claim construction that excludes a disclosed embodiment[.]”); *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1369 (Fed. Cir. 2003) (rejecting claim construction that erroneously excluded an embodiment where the prosecution history showed no disavowal of claim scope). Therefore, Patent Owner’s “propagation delays” argument necessarily fails to distinguish the prior art and must be discredited.

B. Petitioner Identified “Control Signals” and “Synchronous Signals”

Patent Owner erroneously alleges that Petitioner “has failed to establish that any reference discloses both the ‘control signals’ and the ‘synchronous signals’ recited in claim 1 – two different types of signals.” (Paper 29 at 4.) Patent Owner’s proposal that a “control signal” and “synchronous signal” must be mutually exclusive is inconsistent with Federal Circuit precedent and the ’546 patent.

“In the absence of any evidence to the contrary, we must presume that the use of these different terms in the claims connotes different meanings.” *CAE Screenplates Inc. v. Heinrich Fiedler GmbH & Co. KG*, 224 F.3d 1308, 1317 (Fed. Cir. 2000). But “different meanings” has never meant that different words in a claim must be mutually exclusive as Patent Owner appears to submit.

For example, in *Geospatial Tech. Assocs., LLC v. United States*, the parties disputed the meaning of the terms “first score” and “target detection score,” which were both recited in at least some of the same patent claims. *See* No. 16-346C, 2019 WL 1085258, at *6 (identifying term “target detection score” in claims 1-5, 10-14, 19-23) and “first score” in claims 1-5, 10, 12-14, 19, 21-23), *12-*14 (Fed. Cl. Mar. 7, 2019). “The parties disagree[d] about whether the term ‘first score’ ... should be limited to the ‘target detection score,’ or may include other thresholds.” *Id.* at *15.

Recognizing the longstanding principle that different terms are presumed to have different meanings, the court held that “the term ‘first score’ is not identical to, or interchangeable with, ‘the target detection score.’” *Id.* at *16. Rather, the term “first score” was construed to mean “a first specified target detection score *or other threshold.*” *Id.* (emphasis added). In sum, although the term “first score” had a different meaning than “target detection score,” it *did* have overlapping scope because “first score” could include “a first specified *target detection score.*”

Under this proper understanding of the longstanding principle that different claim terms are presumed to have different meanings (but are not required to be mutually exclusive), Petitioner has identified both “control signals” and “synchronous signals” in the prior art. (*See, e.g.*, EX1010, ¶ 34 (Dr. Schubert opining that Kuang’s disclosure that LED units may be controlled individually *or* by group discloses both “control signals” and “synchronous signals”), ¶ 42 (Dr.

Schubert opining that Lys’s disclosure of “independently controllable light sources” requires “control signals” and because these light sources “may be synchronized” also discloses “synchronous signals” as claimed).) Moreover, to the extent Patent Owner is trying to impose a narrow construction of these terms to expressly exclude “synchronous signals” from the scope of “control signals,” Patent Owner erroneously proposes a claim construction that excludes embodiments in the ’546 patent specification. (See EX1010, ¶ 32 (Dr. Schubert explaining that the ’546 patent specification “only discloses control signals which may be synchronous if controlling more than one slave control unit at the same time”).)

And finally, Patent Owner admits that “activities governed by synchronized timing” includes “controlling LEDs *in patterns*.” (Paper 29 at 2 (emphasis added).) This further supports Petitioner’s identification of Kuang’s “predetermined patterns” and Lys’s “illumination programs” as disclosing LEDs being controlled “in rhythm.” (See Paper 30 at 4-6.)

II. “CURTAIN LAMP”

Patent Owner has attempted to read specific “pin” physical structures into the ’546 patent claims, distinguish “propagation delays” from the scope of “synchronous signals,” and limit “curtain lamp” to some literal and physical “string” material – despite there being *nothing* in the ’546 patent disclosure to support any of these narrow backdoor claim constructions. Yet here, Patent Owner exclaims that “curtain

lamp” cannot be construed to encompass a single LED because “every circuit diagram of a curtain lamp in the ’546 shows multiple LEDs arranged in strings.” (Paper 29 at 7.) Patent Owner is wrong. As Petitioner pointed out, “Figure 9 shows a circuit diagram of the slave control unit of the light-emitting diode *curtain lamp with single light-emitting diode* in one light-emitting diode string.” (See Paper 30 at 7-8 (citing EX1001 at 6:27-40) (emphasis added).) This is the single LED embodiment for a “curtain lamp” (with circuit diagram), and Patent Owner’s conclusory and unsupported attorney argument that this refers to “a string that has one light, but the entire curtain lamp is not just that one light” cannot be reconciled with Figure 9 and the plain language in the ’546 specification.

Finally, Petitioner maintains that the prior art discloses a plurality of LEDs – not just one. And as Dr. Schubert explained, limiting a “string” to some physical structure would be contrary to the ’546 patent specification, which only provides “schematics without any description of physical aspects of ‘strings.’” EX1010, ¶¶ 15-16. That Patent Owner’s construction of “curtain lamp” would exclude the single LED embodiment is further reason to reject Patent Owner’s argument that Kuang and Lys do not disclose “curtain lamps” because a single LED cannot have any structural “string” requirement. See *MBO Lab’ys, Inc. v. Becton, Dickinson & Co.*, 474 F.3d 1323, 1333 (Fed. Cir. 2007) (rejecting claim construction that would exclude embodiments illustrated in the drawings).

DATE: March 31, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing
PETITIONER'S RESPONSIVE POST-HEARING SUPPLEMENTAL BRIEF was
served on March 31, 2025, via email to counsel of record for the Patent Owner at
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