

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG ELECTRONICS CO., LTD.,
Petitioner,

v.

COLLISION COMMUNICATIONS, INC.,
Patent Owner.

Case No. IPR2024-01247
U.S. Patent No. 7,593,492

PETITIONERS' PRELIMINARY REPLY

EXHIBIT LIST

Ex.	Description
1001	U.S. Patent No. 7,593,492 (“’492 patent”)
1002	Prosecution History for 7,593,492
1003	Declaration of Dr. Paul Min
1004	<i>Curriculum Vitae</i> of Dr. Paul Min
1005	U.S. Patent Pub. No. 2006/0018410A1 (“Onggosanusi”)
1006	U.S. Patent Pub. No. 2005/0053173A1 (“Egnor”)
1007	Sergio Verdu, “Multiuser Detection,” Cambridge University Press (1998) (“Verdu”)
1008	Infringement Contentions – Chart for U.S. Pat. No. 7,593,492
1009	Lathi, Modern Digital and Analog Communication Systems, Third Edition, Oxford University Press (1998)
1010	U.S. Pat. No. 6,947,505
1011	United States District Court for the Eastern District of Texas Local Rules as of December 1, 2023 (highlighted)
1012-1049	Intentionally Left Blank
1050	Transcript of December 23, 2024 Board Teleconference

Petitioner does not dispute PO's construction of claim 1's "multi-user detector decision unit" as an MPF limitation because it is obvious regardless of its construction. The Petition expressly mapped the term to **two** separate algorithms that PO identifies as "corresponding structure," specifically, a "correlation matrix between the users" and an "eigendecomposition of the correlation matrix." Ex. 1001, 13:55-62, 14:8-18; Pet. 43-44.

This is manifestly clear by considering dependent claim 3, which **expressly requires** that claim 1's "detector" includes a "correlation matrix between users" or "eigendecomposition of correlation matrix," the **very same** algorithms PO identifies in the specification as corresponding structure for claim 1. In other words, claim 3 bodily incorporates PO's MPF structure into the claim itself. Importantly, the Petition mapped the "detector" of claims 1 and 3 identically to Onggosanusi. Petitioners explained, with supporting testimony from Dr. Min, how Onggosanusi discloses those algorithms. Pet. 43-44. The Petition explained that Onggosanusi's $f(H)$ determines the "**correlations** between" user signals within the H matrix, and partitions the correlation matrix into "thresholds" for each MUD. Ex. 1005, ¶¶36, 43; Ex. 1003, ¶131; Pet. 43; *compare* POPR 11. Likewise, Onggosanusi's $f(H)$ computes "the eigenvalues of $H^H H$," which the Petition explained is an "eigendecomposition of the correlation matrix H ." Pet. 44 (quoting Ex. 1005, ¶¶41, 43); Ex. 1003, ¶132; *compare* POPR 11-12.

Lastly, Petitioner's request is supported by good cause and is timely. Paper 10, 7 n.4. Lead and backup counsel responsible for drafting this Petition were not aware of the claim construction until raised in the POPR. Moreover, PO's position was not foreseeable—in the co-pending litigation, PO did not assert that the “detector” limitation was MPF until well-after the Petition was filed, on November 4. Indeed, EDTX's Local Patent Rule 3-1(c) requires PO's infringement contentions to identify any MPF terms, their “claimed function,” and mapping to their structure. Ex. 1011, 55. PO's contentions, served on March 25, 2024, did not affirmatively contend any term was MPF and provided no function or corresponding structure, stating only obliquely that “[t]o the extent that the Court” found the “detector” term to be MPF, it was infringed. Ex. 1008, 23. This comports with PO's actions in this proceeding—in a meet and confer on December 18, counsel for PO (Mr. Amendt) stated that PO was unaware of the claim construction order until “leading up” to the POPR. And despite PO's continued arguments that the prior claim construction order would affect this proceeding, it has yet to amend its mandatory disclosures identifying the Texas case as a related matter. Petitioner's request was also timely. Given the intervening Thanksgiving holiday and unavoidable delays in communication with Petitioner's client, Petitioner moved as expeditiously as it could, reaching out to PO on December 5. Petitioner will, in the future, endeavor to move even more expeditiously on similar requests.

Respectfully submitted,

Dated: January 6, 2025

By: /s/ James M. Glass

James M. Glass, Reg. No. 46,729

Counsel for Petitioners

CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing document was served on January 6, 2025 via email directed to counsel of record for Patent Owner at the following.

Dated: January 6, 2025

/s/ James M. Glass
James M. Glass, Reg. No. 46,729
Counsel for Petitioners