

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

Petitioners,

v.

COLLISION COMMUNICATIONS, INC.,
Patent Owner.

Case No. IPR2024-01247
U.S. Patent No. 7,593,492 B1

PATENT OWNER'S PRELIMINARY SUR-REPLY

TABLE OF EXHIBITS

Exhibit	Description
2001	Declaration of Dr. Giuseppe Caire
2002	CV of Dr. Giuseppe Caire
2003	U. Madhow, <i>Fundamentals of Digital Communication</i> , Cambridge University Press 2008
2004	R.G. Gallager, <i>Principles of Digital Communication</i> , Cambridge University Press 2008
2005	August 31, 2022 Claim Construction Order
2006	Judge Rodney Gilstrap Motion to Stay Pending IPR Statistics
2007	June 30, 2024 Federal District Court Case Management Statistics
2008	<i>Collision Communications, Inc. v. Samsung Electronics Co., Ltd.</i> , No. 23-cv-00587 (E.D. Tex.) Docket
2009	<i>Collision Communications, Inc. v. Samsung Electronics Co., Ltd.</i> , No. 23-cv-00587 (E.D. Tex.) Scheduling Order
2010	December 16, 2024 Joint Claim Construction and Prehearing Statement
2011	Samsung's December 16, 2024 email to the Board

No Reasonable Likelihood of Success: Samsung agrees here and in the district court litigation that “multi-user detection unit” is an MPF limitation whose corresponding structure is a “MUD decision unit 220 (or decision logic 520) configured to perform one or more algorithms described at 8:12-18, 13:35-14:40, 15:3-21, 19:43-48, 19:56-62, and 20:41-49.” (EX2010, 1). Like Samsung’s Petition, its Reply fails even to assert that *Onggosanusi* discloses the required “MUD decision unit 220 (or decision logic 520).” Instead, Samsung merely addresses for the first time two algorithms: the Correlation Matrix Ratio/User Algorithm (described at ’492 Patent, 13:55-62 and POPR, 11); and the Correlation Matrix Eigenvalues Algorithm (described at ’492 Patent, 14:7-18; POPR 11-12, 23). But Samsung does not identify any actual steps of these algorithms, nor does it try to point to any of those steps in its Petition or references. Instead, it just repeats a few buzz words from *Onggosanusi*—*e.g.*, “correlations” and “eigenvalues”—as if that were enough to disclose these specific algorithms. It is not.

Unable to identify the actual steps of these algorithms in the Petition or *Onggosanusi*, Samsung tries hiding this failing by presupposing without any explanation or citation (expert or otherwise) that these two algorithms are the “**very same**” as the limitations in dependent claim 3. (PR, 1). They explicitly are not.

The ’492 Patent describes that its Correlation Matrix Ratio/User Algorithm is not just a generic “correlation matrix,” but includes specific steps, including, for

example, “comparing each diagonal term to the sum of the off diagonal terms.” (EX1001, 13:55-62; POPR, 11). The Reply does not address or attempt to identify any of these steps in the Petition or *Onggosanusi*.

Similarly, for the Correlation Matrix Eigenvalues Algorithm, the Reply relies on the mere calculation of “eigenvalues,” but the ’492 Patent describe that this algorithm requires many more steps, including, the calculation of eigenvectors. (EX1001, 13:55-62). Samsung does not even assert *Onggosanusi* discloses these steps. And it could not because *Onggosanusi* calculates no eigenvectors and uses only two eigenvalues, the largest and smallest. (EX1005, ¶ [0042]). In contrast, the ’492 algorithm calculates and uses **all** the eigenvalues and **all** the eigenvectors to determine how many are above a noise floor, how close the eigenvalues and eigenvectors are, and if there are any dominant terms. (EX1001, 13:55-62; POPR, 11). *Onggosanusi* discloses none of this, and the Reply does not assert otherwise.

No Good Cause: Samsung’s 12.16.24 email to the Board **admitted** it knew of the earlier *Collision v. Nokia* claim construction proceedings **before** filing its Petition. (EX2011; *see also* IPR2024-01248 Petition, 15, citing its EX1012, 14). And **before** the Petition, Collision’s contentions stated this MPF construction could apply. (EX1008, 23). Collision’s Mandatory Notices were filed after the Petition and thus had no effect on Samsung not addressing the known construction.

Dated: January 21, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that a copy of Patent Owner's Preliminary Sur-Reply was served by electronic mail on the following counsel of record:

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