Paper No. ___
Filed: March 19, 2018

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

APPLE INC.,
Petitioner,

v.

CALIFORNIA INSTITUTE OF TECHNOLOGY,
Patent Owner.

Case IPR2017-00210
Patent No. 7,116,710

PATENT OWNER'S SURREPLY

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I. STATEMENT OF PRECISE RELIEF REQUESTED

In view of new argument and evidence submitted in Petitioner's Reply briefing, the Board (Papers 51, 53, 55) authorized a short sur-reply but prohibited submission of rebuttal evidence.

The POR explains, *inter alia*, that the petition case is based on an inaccurate and incomplete assessment of the cited references, fails to account for the significant unpredictability in the field, and wholly lacks any discussion of reasonable expectation of success. Such deficiencies are simply incurable in the Reply. Moreover, the only proposed modification to an RA code in the petition is directed to the non-prior art Dr. Khandekar thesis and is wholly disconnected from the cited references—selecting a repetition profile that is undermined by express disclosure in Divsalar and the testimony of Petitioner's own witness. POR 46-49. Yet, the Reply materials are replete with untimely and improper new argument and evidence—including submission of newly generated experimental data, attorney-generated Tanner graphs, and a declaration from a new witness. And the Reply (2) provides no reasonable justification for replacing Dr. Davis with a new witness, who remains available for deposition in the United States. EX1073, ¶3. Accordingly, the Reply materials should be disregarded and given no weight.

II. ARGUMENT

A. Petitioner fails to establish Frey is prior art

The only specific date identified in the petition regarding Frey's alleged

publication is "March 20, 2000." Pet. 25. Petitioner now asserts that Frey was published by February 2000 on the basis of allegedly being shipped "on or around February 16, 2000." Reply 17. This improper pivot to a new publication theory is precisely the concern Caltech identified in its Request for Rehearing. Paper 36. The Board found Caltech's concerns at the time to be premature, thereby confirming the petition had not asserted any date other than March 20, 2000, and declined to "speculat[e] as to what Petitioner may do in the future." Paper 42, 3. The new publication theory should be rejected as untimely and unduly prejudicial.

Even if considered, the new evidence does not establish Petitioner's new publication date of February 16, 2000. The destination of the alleged shipment was the conference hosts, not members of the public. *Id.* From there, it would have had to further travel elsewhere (*e.g.* Cornell), and then be made accessible to the public—none of of those critical facts are addressed by Petitioner.

B. Frey does not inherently disclose "partitioning said data block"

The Reply (1) misstates the POR argument. *Cf.* POR at 21-24. Frey makes it clear that the bottom circles of Figure 2 are codeword bits, something misapprehended by Dr. Davis. EX1002, p. 244; *see also* POR at 21; EX2004 ¶65. And the Reply still does not explain why mere disclosure of repetition would *necessarily* constitute "partitioning said data block into a plurality of sub-blocks." *Cf.* POR 23-24. Disproving an unsubstantiated inherency theory is not Caltech's

burden, yet Dr. Mitzenmacher's testimony on this point remains unrebutted. [1]

C. Petitioner's attempt to re-write Frey should be rejected

The Reply (5) argues that Frey states its convolutional code has a rate of 2/3, and urges the Board accept the raw number without consideration of what that number means in the context of Frey, or how it compares to a conventional rate calculation. But Dr. Davis conceded that the rate equations in Frey are erroneous. EX2033, 14. Dr. Mitzenmacher explained that the number "2/3" is only achieved by misapplying a systematic calculation to a non-systematic component, where the repeated bits are treated as both input and output to the convolutional code. POR 25-28. But Frey's convolutional code is a non-systematic component that outputs only parity bits (Dr. Davis agreed) and the rate of the convolutional code must be at least 2 when applying the conventional rate interpretation (*i.e.*, input/output).

The Reply (5-6) now advances a new theory claiming that Frey's convolutional code's output "includes both systematic and parity bits." But this conclusory assertion is at odds with the express disclosure of Frey and Dr. Davis testimony. Frey describes its convolutional code as outputting only parity bits.

[1] The Reply (5) accuses Caltech of mischaracterization, but then immediately agrees with Caltech's characterization—*i.e.*, that "block length N" (EX1002, p. 245) refers to "output length," not input. Even if the number of information bits is in an *output* codeword is 5,000, this not a disclosure of the format of the data *input*.

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