

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

HUGHES NETWORK SYSTEMS, LLC and
HUGHES COMMUNICATIONS, INC.,
Petitioner,

v.

CALIFORNIA INSTITUTE OF TECHNOLOGY,
Patent Owner.

Case IPR2015-00060
Patent 7,421,032 B2

Before KALYAN K. DESHPANDE, GLENN J. PERRY, and
TREVOR M. JEFFERSON, *Administrative Patent Judges*.

PERRY, *Administrative Patent Judge*.

DECISION
Denying Petitioner's Request for Rehearing
37 C.F.R. § 42.71

INTRODUCTION

Petitioner, Hughes Network Systems, LLC and Hughes Communications, Inc. (collectively, “Hughes”), filed a Request for Rehearing of the Board’s Decision (Paper 18, “Dec.”), dated April 27, 2015, which denied institution of *inter partes* review of claims 1, 8, 10, 18, 19, and 22 of U.S. Patent No. 7,421,032 B2 (Ex. 1005, “the ’032 patent”). Paper 19 (“Req. Reh’g”). Hughes contends that we (1) overlooked evidence establishing Frey as a publication reference (Req. Reh’g 2–10); and (2) misapprehended Hughes’s reliance on Divsalar (not Luby) as disclosing a summing required by the equation in claim 1 (Id. at 10–12). For the reasons stated below, Hughes’s Request for Rehearing is denied.

STANDARD OF REVIEW

Under 37 C.F.R. § 42.71(c), “[w]hen rehearing a decision on petition, a panel will review the decision for an abuse of discretion.” An abuse of discretion occurs when a “decision was based on an erroneous conclusion of law or clearly erroneous factual findings, or . . . a clear error of judgment.” *PPG Indus. Inc. v. Celanese Polymer Specialties Co. Inc.*, 840 F.2d 1565, 1567 (Fed. Cir. 1988) (citations omitted). The request must identify specifically all matters that the dissatisfied party believes that the Board misapprehended or overlooked. 37 C.F.R. § 42.71(d).

DISCUSSION

A. Frey as a Publication Reference

We determined that Hughes did not establish that Frey (Ex. 1012) was available as a publication reference. Dec. 14–15. Hughes argues that we overlooked important un rebutted evidence that corroborates the publication date of Frey. Req. Reh’g 2–10.

At Req. Reh'g 4, Hughes quotes from Ex. 1060 ¶ 44:

44. I published the article “Irregular Turbocodes” on my website no later than October 8, 1999. This is based on my recollection and information indicating the website paper was last modified on the MacKay Canadian and Cambridge Websites on this same date as shown in Exhibit 1040. The file name for the irregular turbocodes paper was “itc-al.ps.Z” which stands for Irregular Turbo Codes Allerton; “ps” stands for the document format “postscript” and “Z” stands for a UNIX compression file format. A copy of the “Irregular Turbocodes” paper as published on October 9, 1999 is filed herewith as Exhibit 1012.

Ex. 1060, ¶ 44.

The substance of the quoted paragraph was not given weight in our decision because it was not discussed at all in the Petition itself – not even in a single sentence. At page 2, the Petition states:

Hughes relies upon the following patents and publications:

Exhibit 1012 - “Irregular Turbocodes” by B. J. Frey and D. J. C. MacKay (“Frey”), published at least by October 8, 1999 and available as prior art under 35 U.S.C. § 102(a); see also Ex. 1060 at ¶¶ 40–49.

The Petition itself states only that Frey was published at least by October 8, 1999. It makes no argument as to why that is so. The Petition includes only an unexplained cite to Ex. 1060, now quoted extensively and argued in the rehearing request. The Petition itself does not discuss that Frey was published on Dr. MacKay’s website and explain the facts and circumstances related to that publication. Instead, Hughes left it to us to read Dr. MacKay’s Declaration, without guidance or direction, and fashion a presentation that it did not make itself.

Accordingly, Hughes has not demonstrated that we misapprehended or overlooked Hughes's arguments regarding the availability of Frey as a publication reference because Hughes did not present this information in the Petition.

B. Reliance on Divsalar vs. Luby

Hughes implies that the sole basis upon which our Decision declined to grant review under Grounds 6 and 7–9 is because Luby “does not describe a parity bit being computed by summing information bits and another parity bit.” Req. Reh'g 10 (citing Dec. 21). Hughes argues that in fact the Petition relied on Divsalar, not Luby, as disclosing the summing element. For example, with respect to Ground 6, asserting invalidity over Divsalar and Luby, the Petition states:

Divsalar describes an encoder with two stages of encoding with a second encoding that is rate one. As discussed above in Ground 1, this limitation is met by Divsalar for regular encoding. The bits accumulated by Divsalar's accumulator are not “randomly chosen irregular repeats of the message bits.”

Petition at 45–46; Ex. 1010 ¶¶ 193–94.

With respect to Ground 6, Hughes's claim chart for claim 1 elements 1[b] (Pet. 43–44) relies upon both Divsalar and Luby and its proposed claim constructions of “irregular” and the claim 1 equation. We adopted the Hughes construction of the claim 1 equation with modification. Dec. 11.

In its Preliminary Response (Paper 13, “Prelim. Resp.”), Patent Owner California Institute of Technology (“CIT”) argued Luby in the context of claim element 1[b]. Prelim. Resp. 54. Our statement that Luby “does not describe a parity bit being computed by summing information bits and another parity bit,” quoted by Hughes above, represents part of our reasoning that the Petition does not meet the required threshold as to Ground 6.

Hughes may be correct that CIT incorrectly alleged that Luby alone would meet all the limitations of this element [1[b]].” However, we did not rely on CIT’s characterization of Hughes’ statements in its Petition in making our decision. Rather, the Decision denied institution as to Grounds 6 and 7–9 because the Petition does not establish, to the threshold standard (reasonable likelihood), that Divsalar and Luby together render obvious the challenged claims. Claim 1 requires receiving message bits having a first sequence; generating a sequence of parity bits in accordance with a formula; and making the parity bits available for transmission in a data stream. We construed the formula to require that a parity bit x_j is determined by two components. The first component is the parity bit previous to the parity bit being determined (parity bit x_{j-1}). The second component is the sum of “a” (“a” is a number) message bits (information bits) that have been randomly repeated. Dec. 11.

Divsalar describes a data block being repeated and then scrambled. It does not describe irregular repeating. It does not describe obtaining a parity bit by summing two components as set forth in our claim construction. To the extent Divsalar describes summing, it is only summing regularly repeated message bits that have been scrambled. The Petition acknowledges that the bits accumulated by Divsalar’s accumulator are not “randomly chosen irregular repeats of the message bits.” Pet. 45.

Luby Fig. 17, shown in Hughes’s claim chart for element 1[b] of claim 1, shows message bits at nodes 110 being summed with one another at nodes 110’ based on various “edges.” The Petition describes Luby Fig. 17 as showing that “each parity bit on the right is computed by summing together (modulo 2) all of the information bits connected to that parity bit[s] by an edge in the graph.” Pet. 45. It does not show any parity bit being determined by two components as required by

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