

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**FLASH-CONTROL, LLC,**  
*Plaintiff-Appellant*

v.

**INTEL CORPORATION,**  
*Defendant-Appellee*

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2020-2141

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Appeal from the United States District Court for the Western District of Texas in No. 1:19-cv-01107-ADA, Judge Alan D. Albright.

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Decided: July 14, 2021

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DEREK DAHLGREN, Devlin Law Firm LLC, Wilmington, DE, argued for plaintiff-appellant. Also represented by TIMOTHY DEVLIN, JAMES MICHAEL LENNON.

SONAL NARESH MEHTA, Wilmer Cutler Pickering Hale and Dorr LLP, Palo Alto, CA, argued for defendant-appellee. Also represented by JENNIFER JASMINE JOHN; JOSHUA D. FURMAN, JOSEPH TAYLOR GOOCH, San Francisco, CA.

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Before HUGHES, MAYER, and WALLACH\*, *Circuit Judges*.

HUGHES, *Circuit Judge*.

Flash-Control, LLC, appeals from the Western District of Texas’s final judgment granting Intel Corporation’s motion for summary judgment and holding that the asserted patents, U.S. Patent Nos. 8,531,880 and 8,817,537, were invalid for lack of written description. Because we agree that there was no triable issue of fact as to whether the ’880 and ’537 patents’ shared written description adequately supported the patent claims, we affirm.

## I

Flash-Control is the owner of the ’880 and ’537 patents, both continuations of patent applications filed in 2010 and 2012, respectively. The ’880 and ’537 patents share a written specification and are directed to computer memory systems, which can either be volatile or nonvolatile. Nonvolatile memory—such as thumb drives, hard drives, and compact discs—holds information after the system is powered off. Volatile memory—such as static or dynamic random-access memory—holds information only while the system is powered. Flash memory is a type of nonvolatile memory which organizes the data it stores in a hierarchy of “blocks” composed of multiple “pages.” Flash memory is used in memory cards, solid state drives, and similar products. Flash memory is technologically constrained in its ability to read, write, or erase particular pages or blocks of memory. In a flash memory system, data can be read at the page level, but can only be erased at the block level. Thus, an entire block of memory must be erased in order to overwrite a single page of data. The erasing and rewriting steps needed to do so can be slow and, to compensate, some

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\* Circuit Judge Evan J. Wallach assumed senior status on May 31, 2021.

memory systems will couple flash memory with volatile memory for use as a temporary storage location or “buffer.”

The '880 and '537 patents claim a memory system that reduces the number of writes to nonvolatile memory, enhancing performance. '880 patent at 1:59–62. It is undisputed that claim 1 of the '880 patent is representative of the independent claims of both patents:

1. A memory system comprising:
  - a non-volatile memory organized to include a plurality of blocks each having a plurality of pages;
  - a volatile memory;
  - a first buffer capable of temporarily storing at least one page;
  - a second buffer configured to receive information associated with one or more write requests, said write requests being associated with one or more changes to one or more portions of a page in said non-volatile memory, said one or more portions being less than the entirety of said page;
  - said system adapted to locate said page associated with said one or more write requests in said non-volatile memory, and to selectively write said page to said first buffer;
  - said system further adapted to locate in said first buffer said one or more portions of said page associated with said one or more write requests, and to selectively write said one or more portions to said volatile memory without writing the entirety of said page in said first buffer to said volatile memory;

said system further adapted to write said one or more changes from said second buffer to said volatile memory, thereby updating said one or more updated portions from said volatile memory to said first buffer, thereby updating said page stored therein to include said one or more changes associated with said one or more write request; and

said system further adapted to write said updated page from said first buffer to an erased page in said nonvolatile memory.

'880 patent 4:62–5:27. In other words, claim 1 of the '880 patent describes a five-step technique for modifying data that is already stored on the memory in response to a write request: (1) the nonvolatile memory reads out a page of memory onto the first buffer; (2) the first buffer copies a subset of the page to the volatile memory for modification; (3) data from a write request stored on a second buffer is used to modify the subset of the page in the volatile memory; (4) the volatile memory writes the updated subset into the page in the first buffer where it is combined with the unmodified portions of the original page of memory; (5) the first buffer writes the updated page back to an erased page on the nonvolatile memory. *Id.*; *Flash-Control, LLC v. Intel Corp.*, No. 1:19-CV-01107, 2020 WL 4561591, at \*1 (W.D. Tex. July 21, 2020) (*Decision*).

Flash-Control filed suit against Intel in the Western District of Texas on July 3, 2019. J.A. 33. Under the original case schedule, a claim construction hearing was scheduled for April 1, 2020. J.A. 431. On February 5, 2020, after notice to Flash-Control, Intel filed a “Motion for Summary Judgment and Opening Claim Construction Brief.” J.A. 432. Intel sought both summary judgment for lack of written description and a determination that claim 1 of the '880 patent is indefinite. J.A. 436 n.1. Flash-Control filed its opening claim construction brief pursuant to the

original case schedule on February 5, 2020. Flash-Control subsequently sought an extension to the summary judgment briefing that would decouple summary judgment from claim construction. The district court denied the request to separate claim construction from summary judgment. J.A. 632. The parties agreed on a schedule to brief both issues and submitted a “Joint Motion to Enter Amended Markman Scheduling Order.” J.A. 618. On March 15, 2020, the court granted the motion and ordered the stipulated schedule for the combined proceeding, including briefing and related discovery. J.A. 39.

On June 4, 2020, following expert discovery and full briefing and a day before the scheduled hearing, the district court issued a “Preliminary Determination and Construction in Advance of MSJ/*Markman* Hearing” by email, finding the claims invalid for lack of written description. J.A. 410. On June 5, 2020, the court heard argument on the motion for summary judgment. J.A. 203–54. At the end of the hearing, the district court adopted its preliminary determination and advised the parties that it would prepare a written order providing the reasoning for its ruling. J.A. 249–52.

The district court’s written opinion issued on July 21, 2020. The court considered the ’880 patent’s specification and found that there is no written description for the asserted claims. *Decision* at \*8. In particular, the court found that Flash-Control had failed to identify any disclosure, with or without the testimony of its expert, that “shows a second buffer that can store a write request,” as required by step 3, or “the writing of a portion of a page to volatile memory,” as required by step 2. *Id.* at \*4. In ruling that Flash-Control had failed to raise a genuine issue of material fact, the court rejected the testimony of Flash-Control’s expert, Dr. Bagherzadeh, because he “improperly relied on the claims for written description support.” *Id.* at \*8. The district court also rejected Flash-Control’s arguments combining multiple embodiments to derive written description

support as incorrect as a matter of law. *Id.* This appeal followed.

## II

We review a summary judgment decision in accordance with the law of the appropriate regional circuit. *Ineos USA LLC v. Berry Plastics Corp.*, 783 F.3d 865, 868 (Fed. Cir. 2015). The Fifth Circuit reviews a district court’s grant of summary judgment de novo. *Id.* (citing *Triple Tee Golf, Inc. v. Nike, Inc.*, 485 F.3d 253, 261 (5th Cir. 2007)). Summary judgment is appropriate when there is no genuine issue of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a).

“The essence of the written description requirement is that a patent applicant, as part of the bargain with the public, must describe his or her invention so that the public will know what it is and that he or she has truly made the claimed invention.” *AbbVie Deutschland GmbH & Co. v. Janssen Biotech, Inc.*, 759 F.3d 1285, 1298 (Fed. Cir. 2014). “To satisfy the written description requirement, the applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and demonstrate that by disclosure in the specification of the patent.” *Centocor Ortho Biotech, Inc. v. Abbott Labs.*, 636 F.3d 1341, 1348 (Fed. Cir. 2011) (internal quotations omitted). While the written description requirement does not require that the specification recite the claimed invention in any particular way, pointing to an “amalgam of disclosures” from which an artisan could have created the claimed invention does not satisfy this requirement. *Novozymes A/S v. DuPont Nutrition Biosciences APS*, 723 F.3d 1336, 1349 (Fed. Cir. 2013); *accord Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010). Instead, the specification must present each claim as an “integrated whole.” *Novozymes*, 723 F.3d at 1349. Whether the written description adequately supports a patent claim is a question of fact.

*Vasudevan Software v. MicroStrategy, Inc.*, 782 F.3d 671, 682 (Fed. Cir. 2015).

Flash-Control challenges the district court's grant of summary judgment on several grounds. We address each in turn.

First, Flash-Control urges us to review the district court's exclusion of the testimony of its expert, Dr. Bagherzadeh, as unreliable. Appellant's Br. 41. But we do not review the exclusion of expert testimony *de novo*. District courts have "broad discretion" in deciding whether to exclude expert testimony. *Guy v. Crown Equip. Corp.*, 394 F.3d 320, 325 (5th Cir. 2004) (citing *General Electric Co. v. Joiner*, 522 U.S. 136, 141–42 (1997)). Flash-Control argues only that the district court should have credited their expert. Appellant's Br. 41–49. We detect no abuse of discretion in the district court's determination that Dr. Bagherzadeh's testimony was based on unreliable methodology.

Next, Flash-Control argues that the district court confused the differing legal standards governing summary judgment and claim construction in its summary judgment decision. Appellant's Br. 49. But we discern no such error in the district court's decision. Flash-Control additionally suggests that because various docket items and hearings were not labeled with "summary judgment," Flash-Control was surprised by the resolution of the summary judgment issue in the combined proceeding. *Id.* at 42, 50. Given the procedural history detailed above, however, we find it implausible that Flash-Control was surprised by the combined proceeding.<sup>1</sup>

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<sup>1</sup> To the extent that Flash-Control challenges the district court's decision to combine the issues of summary judgment and claim construction in a single proceeding, Flash-Control fails to address the standard of review

Flash-Control repeatedly asserts that the district court “sid[ed] with Intel” and improperly viewed the evidence in the light most favorable to Intel. *See, e.g.*, Appellant’s Br. 14. But Flash-Control does not explain what specific *reasonable* inferences that court failed to draw in its favor, and we find none in the district court’s decision. Viewing the evidence in the light most favorable to Flash-Control, we agree with the district court that Flash-Control has failed to identify any disclosure that “shows a second buffer that can store a write request,” as required by step 3, or “the writing of a portion of a page to volatile memory,” as required by step 2. *Decision* at \*4. While Figures 6 and 9 of the ’880 patent show one or two buffers being paired with “NAND memory” (a type of nonvolatile memory) there is nothing in the figures or text description of the figures to indicate whether those buffers *act as the second buffer*—i.e., whether they can store a write request to modify a portion of a page as required by step 3. J.A. 514–16 ¶ 60. Flash-Control’s arguments concerning Figures 3 and 12 of the ’880 patent similarly point to items that could, with more, be the second buffer but fail to point to anything specifying that those items perform the second step of the claim. The specification language referring to two “new commands”—“[r]ead byte out of page” and “[w]rite byte out of page”—comes the closest to supporting the claimed technique of operating on a portion of a page as required by step 2. ’880 patent 4:30–36. But the specification never elaborates on these “new commands” and does not indicate whether they interact with any buffer or volatile memory.

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governing that issue, abuse of discretion. *Nuance Commc’ns, Inc. v. Abby USA Software House, Inc.*, 813 F.3d 1368, 1372 (Fed. Cir. 2016). We find no abuse of the district court’s discretion here in combining these proceedings.



Flash-Control also argues that the district court engaged in improper factfinding by stepping into the role of an artisan in its analysis of what an artisan would understand about the specification. Appellant's Br. 26–28. The district court stated that it drew upon its own knowledge in its opinion, and while that would ordinarily constitute legal error, here the district court did so only *after* finding that Flash-Control had failed to show a triable issue of fact as to written description on the evidence of record. *Decision* at \*8 n.1. The district court expressly drew on its own knowledge only in order to expound upon additional reasons for rejecting Flash-Control's arguments. Although the better course would have been to omit that additional reasoning, the court's separate findings made under the proper summary judgment standard are sufficient to support the judgment. And because we review judgments, not opinions, *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1540 (Fed. Cir. 1983), and the judgment in this case was based upon the evidence of record, we conclude that the inclusion of that additional reasoning was not reversible error.

Flash-Control next argues that the district court improperly required it to show that a single embodiment of the '880 patent "disclose[d] all claim limitations for written description." Appellant's Br. 25, 54. Flash-Control's reliance on *LizardTech, Inc. v. Earth Resource Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005), to support the proposition that combining disparate embodiments may properly demonstrate written description support is misplaced. This court held in *LizardTech* that "[a] claim will not be invalidated on section 112 grounds simply because the embodiments of the specification do not contain examples explicitly covering the full scope of the claim language," and that the written description is viewed from the perspective of an artisan who brings "the knowledge of what has come before." *Id.* But that holding did not alter this court's precedent stating that "enough must be included [in

the specification] to convince a person of skill in the art that the inventor possessed the invention.” *Id.* A patent owner cannot show written description support by picking and choosing claim elements from different embodiments that are never linked together in the specification. In *Novozymes*, we explained that the elements of a claim must be treated as an “integrated whole rather than as a collection of independent limitations.” 723 F.3d at 1349. The written description requirement is not met when, as here, the specification provides at best disparate disclosures that an artisan might have been able to combine in order to make the claimed invention. *Ariad Pharms.*, 598 F.3d at 1352. We consequently conclude that the district court did not err in finding that no reasonable juror could find that the written description, including its various embodiments, supported all elements of claim 1 of the ’880 patent.<sup>2</sup>

Finally, Flash-Control argues that the district court improperly considered arguments raised for the first time in Intel’s summary judgment reply brief, which Flash-Control did not have the opportunity to respond to. Appellant’s Br. 28–29. We disagree. The scope of Intel’s summary judgment reply brief is limited to issues raised in its opening brief and Flash-Control’s opposition brief. The portions of Intel’s reply brief cited by the district court in its opinion were rebuttal arguments only. *See Decision* at \*8. Specifically, Intel’s reply brief responds to Flash-Control’s reliance on its expert’s testimony and Flash-Control’s combination of different embodiments and examples to derive support for the claims without any evidence to show that an artisan would have understood these pieces to

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<sup>2</sup> Indeed, even Flash-Control’s expert conceded that combining the relevant elements of Figures 3 and 9 to arrive at the second buffer capable of storing a write request would be “an engineering feat.” J.A. 314–15 (236:19–237:7).

teach the claims as a whole. J.A. 133–38. Flash-Control’s opposition brief included both points. J.A. 88–90. Flash-Control also relied in its opposition brief on Dr. Bagherzadeh’s testimony. *See, e.g.*, J.A. 92. It was appropriate for Intel to respond to Flash-Control’s reliance on both types of evidence in its reply brief. Additionally, Flash-Control asserts that it was unfairly surprised by Intel’s reply arguments concerning the requirement that the written description support the claims as an “integrated whole.” Appellant’s Reply Br. 8. We find this unpersuasive. Intel’s citation to *Novozymes* and its “integrated whole” language was in direct response to Flash-Control’s attempt to derive written support by piecemeal support for elements of claim 1, rather than all the elements of claim 1 together.

### III

We have considered Flash-Control’s remaining arguments and find them unpersuasive. The district court’s decision granting summary judgment for lack of written description is affirmed.

**AFFIRMED**