

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN INTEGRATED CIRCUITS,
COMPONENTS THEREOF, AND
PRODUCTS CONTAINING THE SAME**

Inv. No. 337-TA-1350

**ORDER NO. 20: DENYING RESPONDENT ADVANCED MICRO DEVICES, INC.’S
MOTION FOR SUMMARY DETERMINATION OF CLAIM
INDEFINITENESS**

(July 25, 2023)

On May 15, 2023, respondent Advanced Micro Devices, Inc. (“AMD”) moved (1350-007) for summary determination that certain asserted claims are indefinite. Complainant Realtek Semiconductor Corporation (“Realtek”) timely filed an opposition (“Opp’n”).

Commission Rule 210.18, in pertinent part, states:

Any party may move with any necessary supporting affidavits for a summary determination in its favor upon all or any part of the issues to be determined in the investigation. . . . Any nonmoving party may file opposing affidavits within 10 days after service of the motion for summary determination. The administrative law judge may, in his discretion or at the request of any party, set the matter for oral argument and call for the submission of briefs or memoranda. The determination sought by the moving party shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law.

19 C.F.R. § 210.18. The Commission has analogized summary determination to summary judgment, wherein “the evidence of the nonmovant is to be believed, and all justifiable inferences are to be drawn in his favor.” *Certain Carburetors and Products Containing Such Carburetors*, Inv. No. 337-TA-1123, Comm’n Op. at 5-6 (Oct. 28, 2019) (citing *Liebel-Flarsheim Co. v. Medrad, Inc.*, 481 F.3d 1371, 1377 (Fed. Cir. 2007) (citing *Anderson v. Liberty Lobby, Inc.*, 477

U.S. 242, 255 (1986))). Where the moving party bears the burden of proof on a particular issue, the moving party must show that there is no genuine issue of material fact as to every element. *See Meyers v. Asics Corp.*, 974 F.2d 1304, 1307 (Fed. Cir. 1992).

Pursuant to 35 U.S.C. § 112, second paragraph: “The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112, ¶ 2 (pre-AIA); *see* 35 U.S.C. § 112(b) (AIA). In *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2129 (2014), the Supreme Court held that § 112, ¶ 2 requires “that a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention with reasonable certainty.” Thus, a claim is required to “provide objective boundaries for those of skill in the art,” and a claim term is indefinite if it “might mean several different things and no informed and confident choice is among the contending definitions.” *Interval Licensing LLC v. AOL, Inc.*, 766 F.3d 1364, 1371 (Fed. Cir. 2014). And claims cannot be judicially rewritten in order to fulfill the axiom of preserving their validity. *See Rhine v. Casio, Inc.*, 183 F.3d 1342, 1345 (Fed. Cir. 1999). So “if the only claim construction that is consistent with the claim’s language and the written description renders the claim [indefinite], then the axiom does not apply and the claim is simply invalid.” *Id.*

A. U.S. Patent No. 9,590,582

U.S. Patent No. 9,590,582 (“582 patent”) concerns an “inductor-capacitor (LC)” circuit with a variety of layers and conductive segments within those layers, and having particular arrangements and connections to one another. *See* 582 patent at cls. 1, 2, 9. One embodiment includes an inductor coil (or “coil-conductor segment”) 130 and a capacitor component 150, separated by an insulating layer but electrically connected through vias 192 and 194, where the

capacitor is located in a particular position relative to the inductor coil and to two “extension-conductor segments” connected to the inductor coil:

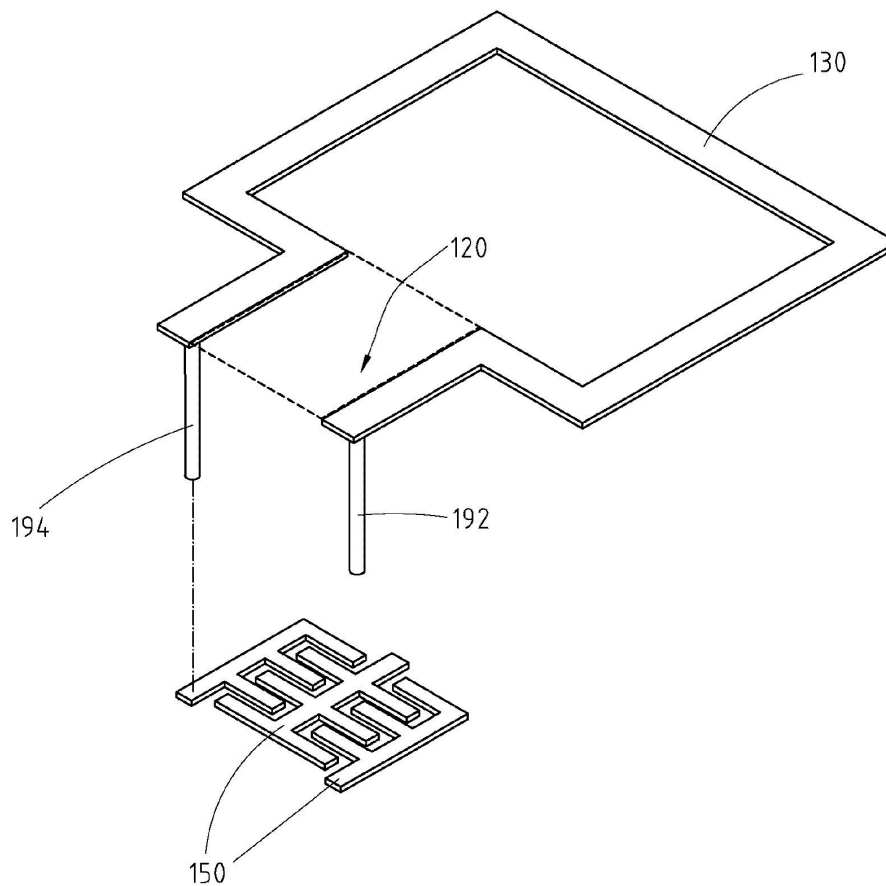


FIG. 6

582 patent at 3:43-55, 10:29-36, Fig. 6.

The independent claims recite a “first region” that is “defined by the two extension-conductor segments and the coil-conductor segment,” that is, the inductor coil. 582 patent at cls. 1, 9. In the independent claims the capacitor component must be “arranged according to the first region,” and in asserted dependent claim 2 an additional electronic component must be “arranged according to the first region,” but on the other side of a second insulating layer separating it from the capacitor component. *Id.* at cls. 1, 2, 9. Asserted dependent claim 4 is the same as independent

claim 1, but the “first region is defined *between* the two extension-conductor segments.” *Id.* at cl. 4 (emphasis added).

AMD argues that there are no ““objective boundaries”” of the claimed “first region” that would permit a skilled artisan to understand the scope of the claimed invention. Mot. at 15. AMD provides fourteen examples of possible “first regions” that it argues are consistent with the claim language. *See id.* at 16-19. But the problem the patent is directed to is “achiev[ing] a further compact size with no or lesser influencing effects of signal transmission or filtration,” that is, “to reduce generation of phase noise, arrangement of interconnecting wires, and an overall size.” 582 patent at 1:40-41, 2:1-3. The patent purports to solve this problem by limiting the location of the capacitor: “a resonant capacitor is arranged corresponding to an input/output part of the inductor component” (*id.* at 1:66-2:1), and the applicant otherwise made this restriction clear during prosecution (Opp’n at 13-14; *see* EDIS Doc. ID 796338 (AMD Initial Claim Construction Brief), Ex. 108 at -2473-4). So many of the fourteen “first region[s]” AMD identifies can be ruled out, because they “correspond” beyond the inductor coil’s input/output part.

And as Realtek points out, the specification discloses an embodiment having one of AMD’s hypothesized regions as the claimed first region: “the first region 120 may be limited between the two extension-conductor segments 133 and 135, such as shown in Fig. 6.” *See* Opp’n at 12 (citing 582 patent at 8:48-50). The “first region” of Figure 6 corresponds to AMD’s “Example Five.” Mot. at 17, 20. It also plainly corresponds to the area between the extension-conductor components, which are the “input/output part of the inductor component.” 582 patent at 1:67-2:1, 3:25-27. The inductor coil/coil-conductor segment 131, by contrast, corresponds to the “induction part of [the] inductor,” which rules out including the area encompassed by it as part of the first region. *Id.* at 3:24-25; *see* Mot. at 16-17.

The specification and Figures are therefore seemingly sufficient for a POSITA to ascertain the scope of the claims, and it is irrelevant how Realtek contends the accused and domestic industry products fall within the scope of the claims. *See* Mot. at 21-25. And the evidence from Realtek’s expert, Dr. Joshua Phinney, raises at least a triable issue over indefiniteness. *See generally* Opp’n, Ex. 4 (Phinney Decl.).

To be sure, Realtek’s expert evidence is not entirely consistent with the intrinsic evidence. For example, according to claim 1, the “connecting segments” of the capacitor component must overlap the “two extension-conductor segments in a vertical direction,” which suggests the capacitor component cannot fall wholly inside the region bounded by the inner edges of the extension-conductor segments. 582 patent at cls. 1, 9. It is not clear how to reconcile this with Dr. Phinney’s opinion that the first region “defined by” the extension-conductor segments extends to their outer edge, while the first region “defined between” the extension-conductor segments (as in claim 4) extends only to their inner edge. *See* Opp’n, Ex. 4 (Phinney Decl.) at ¶¶ 47, 48.

In any event, AMD has its own expert evidence. *See* Mot., Ex. B (Prucnal Decl.). And the experts’ differences of opinion show that the issue must be resolved after an evidentiary hearing, so that summary determination of indefiniteness is not appropriate.

B. U.S. Patent No. 8,006,218

U.S. Patent No. 8,006,218 (“218 patent”) concerns the use of “local power meshes” and a “global power mesh” to provide power to multiple power domains within an integrated circuit, where the meshes occupy different layers within a vertical stack. *See* 218 patent at cl. 12. A power domain is a portion of an integrated circuit that requires a voltage, or power, that differs from the power needed for other portions of the integrated circuit; for instance, during sleep mode some portions of a chip may not need a high input voltage, while other portions may need to maintain

the same voltage used during normal operation. *See id.* at 1:13-25. The 218 patent discloses an arrangement that purports to streamline the supply of power to different domains by having a global power mesh 400 (which is located in one set of metal layers M7 and M8) receiving external power, and a local power mesh 300 (which is located in a second set of metal layers M5 and M6) receiving power from the global power mesh and transmitting it to the chip circuitry in particular power domains:

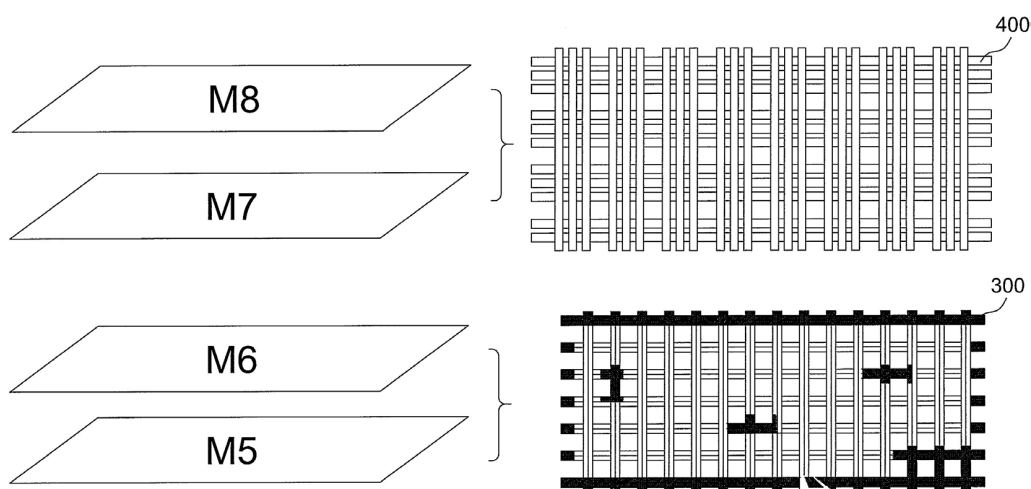


FIG. 5

Id. at Fig. 5; *see id.* at 3:25-32. As shown in Figure 5, the areas with darkened wires in the local power mesh 300 correspond to one power domain, and the remaining areas correspond to a different power domain. *See id.* at 4:49-52.

In addition to teaching a “local power mesh,” the 218 patent also teaches “partial local power meshes,” which may also provide power to the power domains. In one embodiment, for example, “the local power mesh can be partitioned into two different partial local power meshes 310, 320 at the positions corresponding to the positions of the power domains 110, 120.” 218 patent at 3:35-38. In another embodiment, the partial local power meshes apparently may be “separate[]” from the local power mesh: “As shown in Fig. 5, the global power mesh 400 is placed

above the local power mesh 300 and the partial local power meshes 310, 320 of the local power mesh are placed separately above each power domain.” *Id.* at 4:49-52.

AMD contends, based in part on the distinction between a “local power mesh” and a “partial local power mesh,” that asserted claims 12-18 are indefinite. *See* Mot. at 7-11. Independent claim 12 covers a “power routing structure” comprising three power meshes, a “first partial local,” a “second partial local,” and a “global” power mesh, with additional limitations covering the different metal layers in which the meshes are placed, and the placement and orientation of the global power mesh’s power supply wires. 218 patent at cl. 12. The ambiguity in the claim language arises because the claim also has two limitations reciting “the first local power mesh” and “the second local power mesh,” with no clear antecedent bases for these elements: “a global power mesh, coupling to *the* first local power mesh and *the* second local power mesh,” and “the global power mesh and *the* first local power mesh are positioned on different metal layers.” *Id.* (emphasis added). Two dependent claims also reference “the first local power mesh” and “the second local power mesh.” *See id.* at cls. 13, 14.

AMD argues that “a POSITA would be uncertain” whether the claims require only three power meshes (as Realtek contends), or five, that is, “a global,” “a first partial local,” “a second partial local,” “the first local,” and “the second local” power meshes. Mot. at 11; *see* Opp’n at 6. Realtek has proffered expert evidence in support of its “three power mesh” interpretation. *See* Opp’n, Ex. 3 (Souri Decl.) at ¶¶ 36, 43. This is sufficient to preclude summary determination.

Some of the parties’ points do, however, merit further discussion. First, the specification discloses no embodiment of the “five power meshes” interpretation. Two embodiments disclose a global power mesh and first and second local power meshes, where the local power meshes couple to two different power domains, but neither embodiment mentions a partial local power

mesh. *See* 218 patent at 1:51-2:3. The specification also describes an “arrangement method” for forming the various power meshes, but again, it only employs a global power mesh and first and second local power meshes. *Id.* at 3:8-18. And as noted, in yet another embodiment a local power mesh may be “separate” from the two partial local power meshes, but even that embodiment includes only a single local power mesh. *See id.* at 4:49-52. So there is little support in the specification for AMD’s “five power meshes” interpretation.

By contrast, Realtek’s “three meshes” interpretation, if adopted, eliminates any ambiguity and obviates the antecedent basis problem presented by “the first” and “the second” power mesh language. To be sure, this requires interpreting the term “local” as “partial local” in three places in claim 12, and three other places in claims 13 and 14. But construing the claims in such a way is not always improper. In *In re Downing*, 754 F.App’x 988, 990 (Fed. Cir. 2018), for instance, the claim in suit recited “the end user,” without an antecedent reference to “an end user.” The Federal Circuit noted that a lack of antecedent basis need not result in indefiniteness when the claim appraises a skilled artisan of its scope, observed that “claim 1’s recitation of one end user could only refer to the end user using the product,” and held that the claim was thereby not indefinite on this ground. *Id.* at 996. Similarly, in *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1120 (Fed. Cir. 2004), the Federal Circuit declined to interpret “connected” and “associated” as “hav[ing] different meanings,” on the ground that “this is simply a case where the patentee used different words to express similar concepts, even though it may be confusing drafting practice.”

The claims here were also drafted in a needlessly confusing way, but Realtek’s proposed interpretation would make sense to a POSITA in light of the full specification: the global power mesh is “coupl[ed] to the first partial local power mesh and the second partial local power mesh,”

and “the global power mesh and the first partial local power mesh are positioned on different metal layers.” 218 patent at cl. 12 (underlines added). This interpretation is consistent with the patent’s description of Figure 5, where the global power mesh is “above,” and in a different set of metal layers than, the partial local power meshes, and of Figure 6, where “the mutually connecting relation between the global power mesh 400 and the partial local power meshes 310, 320 located below is guaranteed.” *Id.* at 5:22-25. The “five power meshes” interpretation, by contrast, creates the confusing situation where the first and second *partial* local power meshes are “coupled to” and “position[ed] corresponding to” their respective power domains, and yet completely different “first local power meshes” and “second local power meshes” are what “provide the power needed by the first power domain and the second domain separately.” *See id.* at cl. 12. This would seem to render irrelevant the first and second partial local power meshes.

Lastly, there is intrinsic evidence that both the patentee and the Examiner used the terms “local” and “partial local” interchangeably. The specification describes “partial local power meshes” 310 and 320 as “partition[s]” of the local power mesh, but also describes them as simply “local power meshes.” *Compare* 218 patent at 3:35-37 *with id.* at 4:34-38. And as Realtek explains, the Examiner did not clearly distinguish “local” and “partial local” power meshes in

analyzing the claims during prosecution. *See* Opp'n at 7-8; Opp'n, Ex. 1 at RLTK1350_002255.

On balance, therefore, summary determination of indefiniteness is not appropriate as to any asserted claim of the 582 or 218 patents, and AMD's motion for summary determination (1350-007) is DENIED.

SO ORDERED.

A handwritten signature in black ink, appearing to read "C. Elliot", written over a horizontal line.

Cameron Elliot
Administrative Law Judge