

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. 25: DENYING COMPLAINANT REALTEK SEMICONDUCTOR
CORP.'S MOTION FOR SUMMARY DETERMINATION**

(Sep. 7, 2023)

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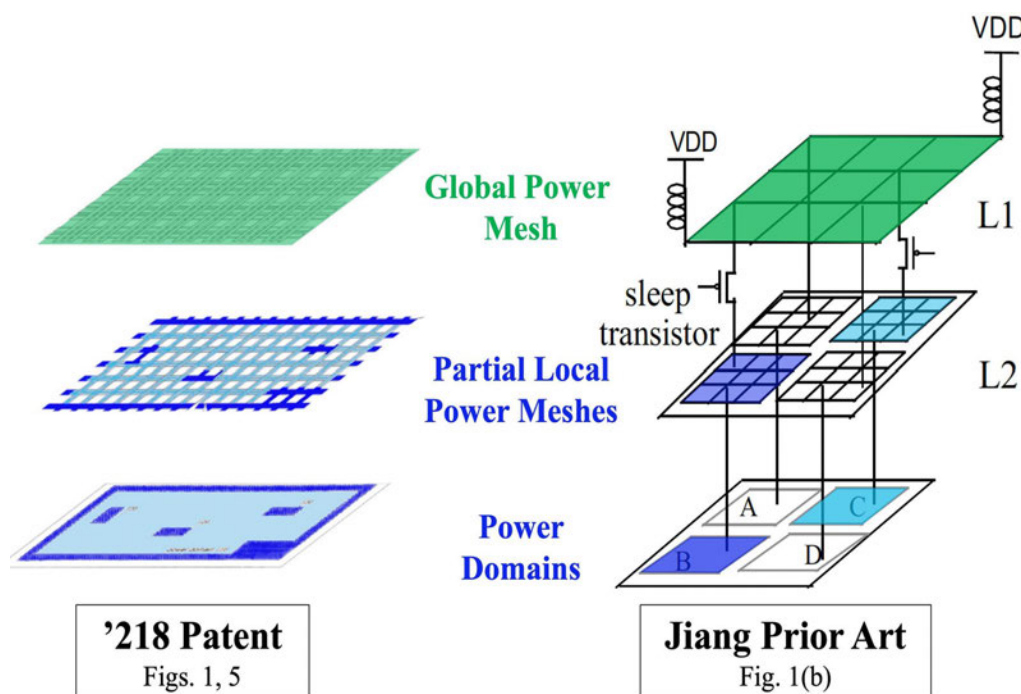
[REDACTED]

D. Jiang and Li

AMD contends that an article by H. Jiang, et al., entitled “Benefits and Costs of Power-Gating Technique” (“Jiang”), published in *Proceedings of the 2005 International Conference on Computer Design*, anticipates claim 12 of the 218 patent. *See* Opp’n at 19; Opp’n, Ex. 20. AMD previously unsuccessfully moved for summary determination that this claim is indefinite, and for present purposes the claim is construed in the manner proposed by Realtek. *See generally* Order No. 20 at 5-10. So construed, Claim 12 recites, in summary, a power routing structure for a chip comprising a global power mesh and first and second partial local power meshes, wherein: (1) the first and second partial local power meshes are positioned corresponding to the positions of first and second power domains, respectively; (2) the global power mesh is coupled to the first and second partial local power meshes to provide the power needed by the first and second power domains separately; (3) the first and second partial local power meshes are positioned in the same metal layer; (4) the global power mesh and the first partial local power mesh are positioned in different metal layers; and (5) the global power mesh includes a plurality of vertical power supply lines and a plurality of horizontal power supply lines, each in different metal layers. *See* 218 patent at cl. 12.

Realtek contends that the second element is missing from Jiang, and therefore that Jiang does not anticipate claim 12. *See* Mot. at 18-21. Specifically, Realtek argues that “Jiang discloses a global mesh . . . with only one power supply” such that it “delivers the same power through the same wiring . . . to both the purported first and second power domains,” which does not qualify as “provid[ing] the power . . . *separately*.” *Id.* at 19-20 (emphasis added).

AMD’s expert, Dr. Vivek Subramanian, opines that this element is disclosed in Jiang. *See* Opp’n, Ex. 21 (Subramanian Rep.) at ¶¶ 216-24. His report contains an annotated and modified comparison of Jiang with Figures 1 and 5 of the 218 patent:



Id. at ¶ 172. Dr. Subramanian opines specifically that the “sleep transistors” inserted between the global power mesh and two of the partial local power meshes “enable[] the global power mesh to power each domain ‘separately’ by selectively turning off each domain’s sleep transistor when desired.” *Id.* at ¶ 220.

This is sufficient to raise a genuine issue of material fact. Realtek counters this evidence with two arguments. *See* Mot. at 20. First, it argues that the sleep transistors are not part of the

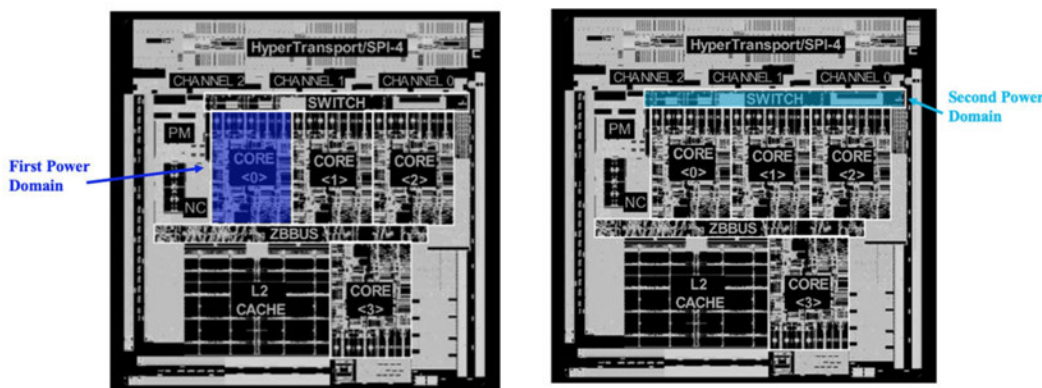
global power mesh. *See id.* But the claim requires that the global power mesh be “coupl[ed] to” the partial local power meshes “to provide the power . . . separately.” 218 patent at cl. 12. A coupling that allows selective distribution of power would seem to meet this limitation, even if some other arrangement, such as two different input voltages supplied to the power domains by separate vias, as in the preferred embodiment, also meets it. *See* 218 patent at 5:8-20. Second, Realtek argues that power must be provided to both domains, but with a sleep transistor either power is provided or it is not, and the claim language is not satisfied when the power is turned off. *See* Mot. at 20-21. The claim language, however, recites “the power needed,” not merely “the power,” so if no power is needed then turning off the power seemingly meets the limitation. 218 patent at cl. 12; *see* Opp’n at 21. Realtek’s arguments are therefore unpersuasive.

There is also a claim construction issue raised by Realtek’s arguments that precludes summary determination. Although the parties have not briefed the construction of “provide the power . . . separately,” its plain and ordinary meaning appears more likely to be entirely structural, that is, “provide the power through separate circuitry” or the like, than to be “provide different voltages through different wiring to different power domains,” which is what Realtek implies the construction should be. *See* Mot. at 19-20 (“Jiang delivers the same power through the same wiring of the global power mesh to both . . . domains”). And Jiang discloses separate “coupling” between its global power mesh and its partial local power meshes, and between its partial local power meshes and its power domains, such that the power domains receive power separately from the global power mesh via their respective partial local power meshes, which seemingly qualifies as “providing the power through separate circuitry.” *See* Opp’n, Ex. 20 at Fig. 1(b).

AMD further contends that the claims of the 218 patent would have been obvious in view of Li, either alone or in combination with Jiang. *See* Opp’n at 22. Realtek seeks summary

determination that Li does not disclose the first limitation recited above, that is, first and second partial local power meshes positioned corresponding to the positions of first and second power domains, respectively. *See* Mot. at 21. More precisely, Realtek argues that Li does not expressly or inherently disclose that the partial local power meshes are positioned “corresponding to” their associated power domains. *See id.* at 22-23.

Dr. Subramanian opines that Li “discloses or at least renders obvious” this limitation. *See* Opp’n, Ex. 21 (Subramanian Rep.) at ¶¶ 274, 284. He identifies Li’s “local power grids” in the “local sections” as the claimed partial local power meshes, one of Li’s “processor cores” as the claimed first power domain, and Li’s “switch” as the claimed second power domain:



Id. at ¶¶ 274-75, 284-85 (citing Opp’n, Ex. 5 at 491-92, Fig. 1). He also cites Li’s description of how the “local power grids” are formed: “Li explains that ‘the power and ground lines in the local sections are gridded on Metal-2 through Metal-5, on which the local power grids are formed at the block level.’” Opp’n, Ex. 21 (Subramanian Rep.) at ¶ 275 (quoting Opp’n, Ex. 5 at 493) (cleaned up).

Most importantly, Dr. Subramanian opines that “[f]orming local power grids ‘at the block level’ means that they are formed to correspond to the underlying circuitry that they will supply, such that they cover only a portion of the BCM1280 chip.” Opp’n, Ex. 21 (Subramanian Rep.) at ¶ 276. This is sufficient to raise a genuine issue of material fact. Realtek’s arguments on this point

have been considered but are not persuasive, and it presumably has its own expert who will opine on the subject. *See* Mot. at 22-24.

Therefore, the portion of Realtek's motion relating to Jiang and Li is denied.

Realtek's motion for summary determination (1350-014) is accordingly DENIED.

Within seven days of the date of this document, the parties shall submit to the Office of the Administrative Law Judges a joint statement as to whether or not they seek to have any portion of this document deleted from the public version. If the parties do seek to have portions of this document deleted from the public version, they must submit to this office a copy of this document with red brackets indicating the portion or portions asserted to contain confidential business information. The submission may be made by email and/or hard copy by the aforementioned date and need not be filed with the Commission Secretary

SO ORDERED.

A handwritten signature in black ink, appearing to read 'Cameron Elliot', is written over a horizontal line.

Cameron Elliot
Administrative Law Judge

I, Lisa R. Barton, hereby certify that the attached **ORDER** has been served upon the following parties as indicated, on **September 7, 2023**.



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