PUBLIC VERSION

UNITED STATES INTERNATIONAL TRADE COMMISSION
Washington, D.C.

In the Matter of **CERTAIN SEMICONDUCTOR INTEGRATED CIRCUITS USING TUNGSTEN METALLIZATION AND PRODUCTS CONTAINING SAME**	**Inv. No. 337-TA-648**

REMAND DETERMINATION

Background

On September 21, 2009, the undersigned issued the Initial Determination ("ID") on the question of violation of section 337 (19 U.S.C. § 1337) finding, *inter alia*, that it was "established by clear and convincing evidence that claims 1, 3, and 4 of [U.S. Patent No. 5,227,335 ("the '335 patent")] are invalid due to anticipation in view of IBM Process A.[1] No other ground for invalidity has been established." ID at 98 (conclusions of law). Accordingly, it was further found that "[n]o violation of section 337 has occurred with respect to claim 1, 3, or 4 of the '335 patent." *Id.* at 98-99.

The investigation, including the ID, is currently before the Commission. On November 23, 2009, the Commission issued a "Notice of Commission Determination to Review-in-Part a

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[1] As detailed in the ID, IBM Process A is a prior art process relating to the invalidity arguments made by respondents and the Investigative Attorney ("IA") of the Commission Investigative Staff ("Staff"). ID at 2-6 (identification of respondents), 79-81 (background of IBM Process A).

Final Initial Determination Finding No Violation of Section 337 and to Remand a Portion of the Investigation." On that date, the Commission also issued an Order ("the remand order"), which provides in part:

> 1. The question of violation of section 337 with respect to claim 4 of the '335 patent is remanded to the ALJ for a remand determination addressing issues related to obviousness with respect to the reference(s) set forth in paragraph 2 below.
>
> 2. The ALJ shall consider whether respondents' and the IA's obviousness arguments related to IBM Process A have merit.

Comm'n Order at 3.[2] The mandate of the Commission's remand order clearly is limited to IBM Process A alone, and thus, this remand determination will primarily address this narrowly drawn issue.

The text of claim 4 and independent claim 1 are addressed in the ID. *See* ID at 35-46 (claim construction); *see also* ID at 8-12 (technological background) & 28-30 (general discussion of the law relating to obviousness).

Discussion

For the reasons explained below, it is found that the respondents' and the IA's obviousness arguments relating to IBM Process A do not have merit. Thus, it has not been shown by "clear and convincing" evidence that claim 4 of the '335 patent is invalid due to obviousness under 35 U.S.C. § 103. *See Checkpoint Systems, Inc. v. United States Int'l Trade Comm'n,* 54 F.3d 756, 761 (Fed. Cir. 1995) (clear and convincing standard of proof).

In their post-hearing brief, respondents presented a two and one-half page argument

[2] The undersigned was not served with the Commission's remand order.

relating to the alleged obviousness of claim 4. Resp. Br. at 46-48. Indeed, very little of this argument was directed to IBM Process A. In the Staff's post-hearing brief, the IA presented a one paragraph argument relating to the alleged obviousness of claim 4. Staff Br. at 71.[3]

In arguing that claim 4 is invalid due to obviousness, neither the respondents, nor the IA, relied solely on IBM Process A . Rather, they relied on other evidence, both intrinsic and extrinsic to the '335 patent, as support for their argument. Accordingly, given this fact and given the fact that the only art identified in the Commission's remand order is IBM Process A, it cannot be found that respondents or the IA have established that claim 4 is invalid as obvious.

Alternatively, reading the remand order more broadly than its literal terms suggest, respondents and the IA still must fail in their attempt to prove obviousness. In that regard, they argue that the use of "tungsten plugs" predates the '335 patent, and that the inventors acknowledged that over-etching to form plugs was "conventional." Indeed, respondents refer to examples in the prior art in which tungsten is deposited by CVD on a titanium "sticking layer," and then etched to planarize the surface. *See, e.g.,* Resp. Jt. Br. at 46 (citing, *inter alia*, CX-1 (the '335 patent), col. 4, lines 52-60).[4] Respondents and the IA conclude that one of ordinary

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[3] In response to the main post-hearing brief of complainants LSI Corporation and Agere Systems, Inc., respondents allocated a few paragraphs of their reply to the obviousness issue. Resp. Reply at 29-30. The IA did not revisit the question in the Staff's reply.

[4] Inasmuch as dependent claims normally add limitations to independent claims, the law provides that a dependent claim can be valid even when the independent claim is invalid. *See Scanner Technologies Corp. v. ICOS Vision Sys. Corp.*, 528 F.3d 1365, 1383 (Fed. Cir. 2008). However, respondents rely on a quotation from the prosecution of the '335 patent, in which the inventors stated that "the dependent claims will stand or fall with claim 1." Resp. Br. at 47-48 (quoting RX-242 (prosecution history) at 128538). That statement appears in an appeal brief filed before the PTO Board, in which counsel (on behalf of applicants) grouped the dependent claims with independent claim 1 for the purpose of discussing the use of conducting nitrides in

(continued...)

skill would have been motivated to combine such additional prior art *with* IBM Process A to meet all of the limitations of claim 4. *Id.* at 48; Staff Br. at 71. Respondents and the IA are wrong.

Listing prior art references, and concluding that the invention would have been obvious in view of those references is insufficient to show obviousness. Rather, the challenger must show clearly and convincingly both how and why prior art could have been combined. *Innogenetics N.V. v. Abbott Labs.*, 512 F.3d 1363, 1373 (Fed. Cir. 2008). That was not shown here by respondents and the IA.

The briefs of respondents and the IA show that tungsten plugs and planarization are found in the prior art. Yet, inasmuch as their arguments are based on alleged obviousness, there is no example from the prior art of the type of planarization required by claim 4 occurring in connection with the fabrication of a device that meets all the limitations of the claim (which include the limitations of independent claim 1). If one adopted their arguments, it is unclear how one could convincingly substantiate the fact that one of ordinary skill would have made a specific combination consisting of IBM Process A and other prior art, and further how one would have successfully accomplished such a combination of elements.[5]

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[4](...continued)
the claimed invention. That is not the issue presented by the additional limitations of claim 4.

Additionally, the prior art discussed in the successful appeal is the same as some of the principal prior art relied upon by respondents in their obviousness argument (*i.e.,* the Smith and Mehta references). Thus, that prior art was already considered by the PTO, with a determination ultimately made in the applicants' favor. Indeed, even if claims 1 and 4 were to "stand or fall" together, inasmuch as respondents have not shown that claim 1 is invalid due to obviousness (let alone in view of Smith and Mehta), claim 4 would also stand.

[5] Each party paid little or no attention to secondary considerations relating to the issue of (continued...)

Accordingly, it is found that respondents' and the IA's obviousness arguments related to IBM Process A do not have merit. Hence, neither respondents, nor the IA, have demonstrated by clear and convincing evidence that claim 4 of the '335 patent is invalid due to obviousness.

To expedite service of the public version, each party is hereby ORDERED to file with the Commission Secretary by no later than January 15, 2010, a copy of this document with brackets that show any portion considered by the party (or its suppliers of information) to be confidential. At least one copy of such a filing shall be served upon the Administrative Law Judge, and the brackets shall be marked in red. If a party (and its suppliers of information) considers nothing in the document to be confidential, and thus makes no request that any portion be redacted from the public version of this document, then a statement to that effect shall be filed in lieu of a document with brackets.

Carl C. Charneski
Administrative Law Judge

Issued: January 14, 2010

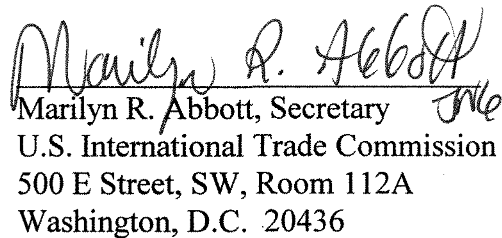
[5](...continued)
obviousness. Clearly, there was a long felt need that motivated at least two companies to research the manufacture of tungsten semiconductors such as those covered by the '335 patent. *See* Compl. Br. at 52 n.16; Compl. Reply 57-58. Yet, as discussed in the ID, IBM actually developed the claimed method first. Thus, secondary considerations of nonobviousness carry no weight in this investigation.

CERTAIN SEMICONDUCTOR INTEGRATED CIRCUITS USING TUNGSTEN METALLIZATION AND PRODUCTS CONTAINING SAME

INV. NO. 337-TA-648

PUBLIC CERTIFICATE OF SERVICE

I, Marilyn R. Abbott, hereby certify that the attached **ORDER** has been served upon the Commission Investigative Attorney, Ret Snotherly, Esq., and the following parties as indicated, on January 29, 2010



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INV. NO. 337-TA-648

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