IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

ADVANCED INTEGRATED CIRCUIT PROCESS LLC,	§	
	§	
v.	§	Case No. 2:24-cv-000730-JRG (Lead Case)
UNITED MICROELECTRONICS CORPORATION	§	
	§	
TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED	§	Case No. 2:24-cv-00623-JRG (Member Case)

UNITED MICROELECTRONICS CORPORATION'S MOTION TO DISMISS PLAINTIFF'S CLAIMS FOR DIRECT INFRINGEMENT AND PRE-SUIT INDIRECT INFRINGEMENT

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Plaintiff brings this lawsuit alleging infringement of seven U.S. patents related to semiconductor devices, including claims for pre-suit induced and contributory infringement. For all seven patents, Plaintiff merely parrots the claim language to allege direct infringement and fails to provide adequate notice of its claims: "a plaintiff cannot assert a plausible claim for infringement under the *Iqbal/Twombly* standard by reciting the claim elements and merely concluding that the accused product has those elements." *Bot M8 LLC v. Sony Corp. of Am.*, 4 F.4th 1342, 1353 (Fed. Cir. 2021). Instead, "[t]here must be some factual allegations that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim." *Id.* Moreover, the allegations are inconsistent on the face of the complaint—Plaintiff contends that because one accused product allegedly infringes, *every product* made with the identified 22 and 28nm process *must also* infringe *all seven patents*, even where the claims require distinct and separate transistor structures. *See, e.g.*, Dkt. No. 1 ¶ 79. Not only do these sweeping allegations fail to give reasonable notice of the infringement allegations, they also do not plausibly allege direct infringement because there are no factual assertions tying the accused products to the claim language.

Further, the complaint fails to allege any pre-suit knowledge for six of the patents, an essential element for indirect infringement that this Court has recently found missing in a similar case with substantially the same allegations. Accordingly, United Microelectronics Corporation ("UMC") respectfully requests that this Court dismiss the direct infringement allegations for all seven patents and the pre-suit indirect infringement allegations for six of the patents.

I. Factual Background

Plaintiff filed this action on September 6, 2024, alleging that UMC has directly and indirectly infringed one or more claims of seven patents through its manufacture and sale of certain semiconductor devices. Dkt. No. 1, ¶¶ 40, 67–70. Plaintiff identifies two infringing products that UMC allegedly manufactures, the Qualcomm MDM9625M semiconductor device and the

Microsemi MPF300T-FCG484E semiconductor device. *Id.* ¶¶ 68–69. Other than parroting the claim language of the seven patents, the complaint is lacking any factual allegations for the Court to plausibly find these two products infringe any of the claims. *See, e.g.*, *id.* ¶¶ 73–78.[1] And despite claiming distinct structures for transistors across the seven patents, Plaintiff arrives at the unsupported conclusion that *every* product UMC makes using its 22 and 28nm process must also infringe *all seven patents*. *E.g., id.* ¶ 79 ("Because the MDM9625M practices at least Claim 1 of the '227 Patent, all semiconductor devices manufactured according to UMC's 28 nanometer process node likewise infringe because infringement occurs as a result of UMC's manufacturing process at this node."). As discussed further below, these allegations lack any factual support and are inconsistent on the face of the complaint.

A. Plaintiff's Direct Infringement Allegations

The complaint highlights one claim in each patent that is allegedly found in the accused products, each of which generally relates to the structure of a transistor. Counts 1–6 allege direct infringement of U.S. Patent Nos. 7,579,227, 7,923,764, 8,198,686, 8,253,180, 8,587,076, and 8,796,779 through the Qualcomm MDM9625M semiconductor device and count 7 alleges infringement of U.S. Patent No. 8,907,425 through the Microsemi MPF300T-FCG484E semiconductor device. But besides parroting back the claim language for one claim of each patent, the direct infringement allegations contain no factual assertions for the Court to find a plausible claim for relief. As shown below for exemplary count 1, the only allegations of infringement are almost entirely copied and pasted from the claim:

Claim 1 of U.S. Patent No. 7,579,227	The Infringement Allegations
A semiconductor device comprising:	The MDM9625M is a semiconductor device comprising a high dielectric constant gate insulating film formed on an active region in a

[1] Plaintiff's allegations are substantially similar for all seven patents.

Claim 1 of U.S. Patent No. 7,579,227	The Infringement Allegations
a high dielectric constant gate insulating film formed on an active region in a substrate; a gate electrode formed on the high dielectric constant gate insulating film; and an insulating sidewall formed on each side surface of the gate electrode, wherein the high dielectric constant gate insulating film is continuously formed so as to extend from under the gate electrode to under the insulating sidewall,	substrate. It further comprises a gate electrode formed on the high dielectric constant gate insulating film, and an insulating sidewall formed on each side surface of the gate electrode, wherein the high dielectric constant gate insulating film is continuously formed so as to extend from under the gate electrode to under the insulating sidewall. Dkt. No. 1 ¶ 75.
at least part of the high dielectric constant gate insulating film located under the insulating sidewall has a smaller thickness than a thickness of part of the high dielectric constant gate insulating film located under the gate electrode,	At least part of the high dielectric constant gate insulating film located under the insulating sidewall has a smaller thickness than a thickness of part of the high dielectric constant gate insulating film located under the gate electrode. For example, in the MDM9625M, the tapered edge of the high dielectric constant insulating film is thinner than the non-tapered area under the gate electrode. Dkt. No. 1 ¶ 76.
the insulating sidewall includes a first insulating sidewall formed on a side surface of the gate electrode and a second insulating sidewall formed on the side surface of the gate electrode with the first insulating sidewall interposed therebetween, the high dielectric constant gate insulating film is continuously formed so as to extend from under the gate electrode to under the first insulating sidewall, and	In the MDM9625M, the insulating sidewall includes a first insulating sidewall formed on a side surface of the gate electrode and a second insulating sidewall formed on the side surface of the gate electrode with the first insulating sidewall interposed therebetween, and the high dielectric constant gate insulating film is continuously formed so as to extend from under the gate electrode to under the first insulating sidewall. Dkt. No. 1 ¶ 77.
part of the high dielectric constant gate insulating film located under the first insulating sidewall has a smaller thickness than a thickness of part of the high dielectric constant gate insulating film located under the gate electrode.	Part of the high dielectric constant gate insulating film located under the first insulating sidewall in the MDM9625M has a smaller thickness than a thickness of part of the high dielectric constant gate insulating film located under the gate electrode. Dkt. No. 1 ¶ 78.

More troubling, the infringement allegations are unbounded and all-encompassing, allegedly covering "all semiconductor devices manufactured according to UMC's 28 [and 22] nanometer process." *See, e.g.*, Dkt. No. 1 ¶ 79. The complaint does not specify a particular use or industry segment for the accused products, nor does it limit the accused products to specific customers. The complaint does not explain any benefits of the alleged inventions or what the claimed transistors would be used for. Instead, each of the seven counts assert that "on information and belief, UMC uses common MIS transistor structures for all semiconductor devices that it manufactures with its 28 [and 22] nanometer process node such that all semiconductor devices manufactured at the 28 [and 22] nanometer node invariably infringe at least Claim 1 of the [asserted patent] in the same manner the MDM9625M does." *Id.* These allegations fail to give fair notice of the infringement allegations at the pleading stage and are even facially inconsistent with each other, as discussed below.

Claim 25 of the '686 patent and claim 1 of the '779 patent each claim a semiconductor device with two separate and distinct transistors. *Id.* ¶¶ 104 & 146. Claim 25 of the '686 patent claims a "first MIS transistor" and a "second MIS transistor," where each transistor has a metal film "made of different metal materials" than the other. *Id.* ¶ 104. The complaint concludes without analysis that this claim is met by two transistors of different types, one PMOS transistor and one NMOS transistor. *Id.* ¶ 106. Claim 1 of the '779 patent claims "a first MIS transistor and a second MIS transistor of an identical conductivity type," with one transistor having an "interface layer" with "a thickness larger than that" of the second transistor. *Id.* ¶ 146. This limitation is allegedly met by two separate PMOS transistors. *Id.* ¶ 148. For both patents, despite claiming different structures of separate transistors, Plaintiff takes a leap and alleges that *every* product made with UMC's 22 and 28nm process "invariably infringes" *each* of the patents. *See id.* ¶¶ 111 & 155

("Because the MDM9625M practices at least Claim 25 of the '686 Patent, all semiconductor devices manufactured according to UMC's 28 [and 22] nanometer process node likewise infringe because infringement occurs as a result of UMC's manufacturing process at this node.").

Despite the face of the complaint requiring separate and distinct transistor structures through the different patents (and within the same claim for at least two patents), Plaintiff makes the unsupported conclusion "on information and belief" that every product made by UMC's 22 and 28nm process must infringe. Besides lacking any analysis that the two asserted products have the claimed structures, the complaint fails to identify why *every* product must "invariably" include the exact same structure—there is no discussion about what the transistors are used for, what their purpose is, or why they *must* be found in *every* product made using the same process.

Instead, the complaint simply copies and pastes the claim language over the seven patents without providing any analysis for why those structures are present in UMC's products. While the complaint identifies two accused products from third parties, the Qualcomm and Microsemi chips, Plaintiff could substitute these products for any other chip manufactured using the 22 or 28 nm process and the substance of the allegations would remain completely unchanged. Finally, the fact that counts 1–6 assert infringement by the Qualcomm chip, while count 7 only asserts infringement by the Microsemi chip, disproves Plaintiff's allegations. If *every* product made with the 22 and 28nm process "invariably" infringes, as the complaint contends, then Plaintiff would have needed to only identify one chip as an accused (and not two separate chips across the seven patents).

B. Plaintiff's Indirect Infringement Allegations

As to counts 1–6 (alleging indirect infringement of the '227, '764, '686, '180, '076, and '779 patents), Plaintiff asserts that UMC has knowledge of the patents and of infringement only as of the date of the complaint. *See, e.g.*, *id.* ¶ 80 ("UMC has known that their customers' acts constituted direct infringement of at least one claim of the '227 Patent since at least as of the filing

of this Complaint."). But Plaintiff also asserts that UMC has committed pre-suit indirect infringement (and is allegedly liable for damages from pre-suit indirect infringement). *See, e.g.*, *id.* ¶ 80 ("UMC likewise *has induced infringement* of the '227 Patent . . . . UMC *has actively encouraged its customers* (e.g., Qualcomm) to directly infringe the '227 Patent . . . . *UMC actively encouraged its customers* to employ UMC's infringing process nodes . . . . As a result of UMC's active encouragement and intentional inducement, its customers *have committed acts directly infringing* the '227 Patent."); *id.* ¶ 81 ("UMC intends to cause, *and has taken affirmative steps* to induce infringement by customers and end-users . . . ."); *id.* ¶ 88 ("UMC's direct, induced, and contributory infringement of the '227 Patent *has caused*, a will continue to cause, substantial damage to AICP."). Because Plaintiff failed to plausibly plead that UMC knew of the patents or of infringement prior to filing the complaint for counts 1–6, Plaintiff's allegations for pre-suit induced and contributory infringement must be dismissed.

II. Applicable Pleading Standards

A complaint must include specific factual allegations in support of the claim. *Ashcroft v. Iqbal*, 556 U.S. 662, 678 (2009). "Threadbare recitals of the elements of a cause of action, supported by mere conclusory statements do not suffice." *Id.* Instead, a complaint must contain sufficient factual matter that, when accepted as true, "state[s] a claim for relief that is plausible on its face." *Bell Atl. Corp. v. Twombly*, 550 U.S. 544, 570 (2007). "A claim has facial plausibility when the plaintiff pleads factual content that allows the court to draw the reasonable inference that the defendant is liable for the misconduct alleged." *Iqbal*, 556 U.S. at 678. But "courts are not bound to accept as true a legal conclusion couched as a factual allegation." *Twombly*, 550 U.S. at 555 (quotation omitted).

III. The Complaint Does Not Plausibly Allege Direct Infringement Beyond the Bare Conclusion of Parroting the Claim Language.

For patent infringement claims, "[t]he level of detail required in any given case will vary depending upon a number of factors, including the complexity of the technology, the materiality of any given element to practicing the asserted claim(s), and the nature of the allegedly infringing device." *Bot M8*, 4 F.4th at 1353. While "[a] plaintiff is not required to plead infringement on an element-by-element basis," there must be some factual allegations to support infringement: "a plaintiff cannot assert a plausible claim for infringement under the *Iqbal/Twombly* standard by reciting the claim elements and merely concluding that the accused product has those elements." *Id.* at 1352–53. That is, beyond the mere conclusion of infringement, "[t]here must be *some factual allegations* that, when taken as true, articulate why it is plausible that the accused product infringes the patent claim." *Id.* at 1353 (emphasis added). But here, Plaintiff has not provided any factual allegations that plausibly show it is entitled to relief besides the bare conclusion that the claim limitations are present in the Qualcomm and Microsemi products. And given the sweeping and unsupported breadth of the accused products as *every* product made using UMC's 22 and 28nm process, the complaint fails to give fair notice of infringement. *See, e.g.,* Dkt. No. 1 ¶ 79.

Following *Iqbal/Twombly* and the removal of form 18 from the Federal Rules of Civil Procedure, the Federal Circuit and this Court have consistently found that a patent infringement complaint must provide some minimal level of factual allegations to plausibly show entitlement to relief and provide reasonable notice of infringement. While this Court has repeatedly found this is a small threshold to overcome, Plaintiff's complaint falls below that minimum threshold. Unlike the complaint the Federal Circuit found insufficient in *Bot M8*, which included (1) screenshots and (2) analysis of a torn apart PS4, the complaint here does not include any teardowns of the accused products or substantive analysis for why the claimed transistor structures are "invariably" present.

Bot M8, 4 F.4th at 1353–54. Unlike the complaint in *CyboEnergy*, which this Court found was deficient even though the complaint cited product literature and other publicly available information about the accused products, the complaint here does not analyze any materials from the accused products to show infringement of any claim or otherwise explain why the claimed structures are present in the two identified chipsets. *CyboEnergy, Inc. v. Hoymiles Power Elecs. USA, Inc.*, No. 2:23-CV-00311-JRG, 2024 WL 1219725, at *3–5 (E.D. Tex. Mar. 20, 2024).

Unlike the complaint in *Arigna*, which (1) specified the relevant claimed technology as a "semiconductor device that consists of a voltage detecting device configured to control the conduction and non-conduction of a high side switching device by detecting a potential and supplying a logic value based on that potential," (2) described its use in "a vehicle's engine control module to control the throttle plate of the engine," and (3) identified a "specific tangible chipset" found in certain automobiles as the accused product, the complaint here fails to identify the claimed technology (beyond copying and pasting the claim language), its purported use, or why the claimed structures are necessarily found in *every* UMC product made with its 22 or 28nm process. *Arigna Tech. Ltd. v. BMW AG*, No. 2:21-CV-00172-JRG, 2022 WL 610796, at *3 (E.D. Tex. Jan. 24, 2022). Similarly, and unlike the complaint in *Opticurrent*, which (1) described the claimed semiconductor technology as "a three terminal non-inverting switch with a voltage stabilizer and a CMOS inverter" and (2) specified its alleged benefits ("a lower amount of current leakage between the second and third terminal"), the complaint here fails to describe the claimed technology beyond the claim limitations and does not identify any benefits of the alleged inventions. *Opticurrent, LLC v. Power Integrations, Inc.*, No. 2:16-CV-325-JRG, 2016 WL 9275395, at *3–4 (E.D. Tex. Oct. 19, 2016).

The allegations here do not even rise to the level of the complaint in *NorthStar*, where this Court concluded that "NorthStar's factual allegations of infringement are thin" and "NorthStar does little more than parrot the claim language." *NorthStar Sys. LLC v. Volkswagen AG*, No. 2:22-CV-00486-JRG, 2023 WL 5723648, at *3 (E.D. Tex. Sept. 5, 2023). This Court nonetheless found that the *NorthStar* complaint gave sufficient notice of infringement because it targeted a discrete and specific accused product, the BMW navigation system. *Id.* ("Alleging that the 'BMW Navigation System' is infringing is sufficient to put BMW on notice of the class of products that may be infringing."). But here, the allegations purport to accuse *every product* made using UMC's 22 and 28nm processes, which comprises thousands of products. According to the complaint itself, these products encompass 33% of UMC's $1.75 *billion* quarterly worldwide revenue. *See* Dkt. No. 1 ¶ 83. Taken at face value, the complaint accuses *thousands* of products of infringement without sufficient factual allegations to show that *even one* infringes any claim of the seven patents. And even though the claims require distinct transistor structures (including claim 25 of the '686 patent and claim 1 of the '779 patent requiring two distinct transistors in the same claim), the complaint concludes, without analysis, that all products made with the same process *must* have the same distinct transistor structure *as every other product*.

Because the complaint contains no factual allegations to plausibly support findings of direct infringement for the two Qualcomm and Microsemi chipsets, much less to support a finding that *every* UMC product in its 22 and 28nm processes infringe any claim of the seven patents, the direct infringement allegations do not survive Rule 12(b)(6). Simply put, the allegations do not provide fair and reasonable notice at the pleading stage.

IV. The Complaint Does Not Meet the Pleading Standards for Pre-Suit Indirect Infringement in Counts 1-6 Because Plaintiff Did Not Plead Any Pre-Suit Knowledge of the Patents or of Infringement.

Induced and contributory infringement require both knowledge of the patent and knowledge of infringement. To state a claim for induced infringement, the complaint must plausibly allege that the defendant: "(1) knew of the patent; (2) knowingly induced the infringing acts; and (3) possessed a specific intent to encourage another's infringement of the patent." *Textile Comput. Sys., Inc. v. Broadway Nat'l Bank*, 620 F. Supp. 3d 557, 564 (W.D. Tex. 2022) (citing *Vita-Mix Corp. v. Basic Holding, Inc.*, 581 F.3d 1317, 1328 (Fed. Cir. 2009)); *see also CyboEnergy*, 2024 WL 1219725 at *5 (quoting *Commil USA, LLC v. Cisco Sys., Inc.*, 575 U.S. 632, 640 (2015)) (liability for inducement "can only attach if the defendant knew of the patent and knew as well that 'the induced acts constitute patent infringement'"). Similarly, to state a claim for contributory infringement, the complaint must plausibly allege that the defendant: (1) had knowledge of the patent; (2) had knowledge of infringement; and (3) that the item provided by the defendant is not suitable for substantial non-infringing use. *Commil*, 575 U.S. at 639; *CyboEnergy*, 2024 WL 1219725 at *6 ("Contributory infringement further requires the same 'knowledge of the patent in suit and knowledge of patent infringement' as for induced infringement.").

As this Court recently recognized in *CyboEnergy*, induced and contributory infringement require (1) that the defendant had knowledge of the patent and proceeded regardless, and (2) that the defendant had intent to infringe or knowledge of infringement and proceeded regardless. *CyboEnergy*, 2024 WL 1219725 at *5–6. Here, Plaintiff has not alleged *any* facts for the Court to plausibly conclude that UMC had pre-suit knowledge of either the patents or infringement and the pre-suit indirect allegations should be dismissed. Like *CyboEnergy*, Plaintiff's complaint includes no allegation that UMC had actual knowledge of the asserted patent before this lawsuit. *Id.* Nor

has Plaintiff alleged any specific underlying facts that could support an inference of pre-suit knowledge of these patents, such as a pre-filing notice letter. *Id.*

Nonetheless, and like the allegations dismissed in *CyboEnergy*, Plaintiff alleges that UMC has committed and is liable for pre-suit indirect infringement in counts 1–6. *See, e.g.*, Dkt. No. 1 ¶ 80 ("UMC likewise *has induced infringement* of the '227 Patent . . . . UMC *has actively encouraged its customers* (e.g., Qualcomm) to directly infringe the '227 Patent . . . . *UMC actively encouraged its customers* to employ UMC's infringing process nodes . . . . As a result of UMC's active encouragement and intentional inducement, its customers *have committed acts directly infringing* the '227 Patent."); *id.* ¶ 81 ("UMC intends to cause, *and has taken affirmative steps* to induce infringement by customers and end-users . . . ."); *id.* ¶ 88 ("UMC's direct, induced, and contributory infringement of the '227 Patent *has caused*, and will continue to cause, substantial damage to AICP."). Without any allegation of pre-suit knowledge of the patents or of infringement, Plaintiff's allegations for pre-suit indirect infringement in counts 1–6 should be dismissed.

V. Plaintiff's Direct and Pre-Suit Indirect Infringement Allegations Should Be Dismissed.

Because the complaint contains no factual allegations to plausibly support findings of (1) direct infringement for all seven asserted patents and (2) pre-suit induced or contributory infringement for counts 1–6, UMC respectfully requests that the Court grant this motion and enter an order dismissing these allegations.

Dated: December 6, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing document was filed electronically in compliance with Local Rule CV-5(a) on December 6, 2024 and was served via CM/ECF on all counsel of record.

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