

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

ELM 3DS INNOVATIONS, LLC, a
Delaware limited liability company,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD., a
Korean business entity,
SAMSUNG SEMICONDUCTOR, INC., a
California corporation,
SAMSUNG ELECTRONICS AMERICA,
INC., a New York corporation, and
SAMSUNG AUSTIN SEMICONDUCTOR,
LLC, a Delaware limited liability company,

Defendants.

C.A. No. 14-1430-LPS

**OBJECTIONS TO DECEMBER 4, 2020 ORAL ORDER OF
MAGISTRATE JUDGE (D.I. 382)**

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Samsung Austin Semiconductor, LLC*

Dated: December 18, 2020

I. Introduction

Defendants (“Samsung”) respectfully object to the Magistrate Judge’s December 4, 2020 ruling granting Plaintiff’s (“Elm”) motion to add hundreds of products to the case less than two months before the close of discovery. Elm’s motion misleadingly recasts a clear record that demonstrates that Elm deliberately targeted a narrowed set of products about seventeen months ago (as the Magistrate Judge correctly found), and creates a false narrative that accuses Samsung of knowingly excluding discovery on the products it now seeks to add. The Magistrate Judge correctly found that Elm (not Samsung) selected the accused products to date following the Federal Circuit’s June 12, 2019 decision, and that Elm (not Samsung) sought discovery limited to those products—finding that “it is clear to [the Magistrate Judge] that Elm knew what it was getting from Samsung.” The Magistrate Judge was rightfully left “with a definite and firm conviction that the situation that the parties are now in resulted from a change in strategy on the part of Elm.” The Magistrate Judge nevertheless concluded that, despite this late strategic change, Elm is entitled to the requested discovery but must pay Samsung for half of its expenses.

The Magistrate Judge’s underlying factual findings are entirely correct, but compel the different conclusion that Elm should be precluded from obtaining this discovery. Samsung respectfully objects to only that portion of the Magistrate Judge’s ruling granting the discovery.

II. The Meaning of the “Circuit Layer” / “Die” and “Substrate” Terms Is Indisputable

This case has been pending for six years, and already involves over 1,400 products. Throughout the entire case, the parties’ discovery efforts have been focused on products with stacked “circuit layers” or “dies.” Until Elm filed the instant motion, there could have been *no dispute* about the meaning of the “circuit layer” and “die” claim terms, on the one hand, and the “substrate” claim term, on the other, as the record clearly reflects an absence of any ambiguity.

At the outset of this case, Elm itself served infringement contentions on Samsung's stacked memory products that consistently pointed to (i) the *die* or *chip* in Samsung's products as meeting the "circuit layer" terms, and (ii) the *substrate* within each die or chip as meeting the "semiconductor substrate" term. D.I. 377, Ex. 44 at 1-2, 5, 13-14, 17, 33, 40, 42-43, 51.

Throughout the IPR proceedings of the asserted patents, Elm used the terms "die" and "chip" to refer to an *integrated circuit*, explaining that an integrated circuit includes a *substrate*, *circuitry* and a *passivation layer*. D.I. 377, Ex. 45 at 6; Ex. 46 at 14; Ex. 47 at 18-19.

On appeal from the IPRs, Elm unequivocally explained to the Federal Circuit that "circuit layer" refers to a "die." *Id.*, Ex. 49 at 15. Elm likewise made clear (as everyone agreed) that a "circuit layer" and "substrate" are not the same thing, and that a "circuit layer" itself *includes* a "substrate," circuitry and dielectric materials, among other things. *Id.*

On June 12, 2019, the Federal Circuit issued its decision, construing the terms at issue. *See Samsung Elecs. Co. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373 (Fed. Cir. 2019). The Federal Circuit's construction differed depending on whether the "substantially flexible" term modified the (i) "substrate," or (ii) "circuit layer" and similar terms (*i.e.*, "die," "integrated circuit," and "integrated circuit layer"). D.I. 377, Ex. 6 at 5-6. The Federal Circuit clearly held that it is the "substrate" that must be thinned to 50 microns or less, in order to meet the "substantially flexible" term (among other requirements), and that the "circuit layer" must include such a "substrate" (among other requirements). *Samsung*, 925 F.3d at 1380.

During claim construction before this Court, Elm confirmed that it understood that "circuit layer" refers to an *integrated circuit* that includes a *substrate*, circuitry and dielectrics, D.I. 236 at 25, 49, explaining in its "Statement of Facts" that a "die" or "chip" is made by combining a "substrate," "conductive materials," and "dielectric materials," *id.* at 4-5.

This Court adopted the Federal Circuit’s constructions. D.I. 266 at 7 (construing “integrated circuit / integrated circuit layer / circuit layer / circuit structure / circuit / structure” together); D.I. 299 at 2 (clarifying that “dice,” “die,” “integrated circuit,” and similar terms are construed the same). Thus, it is *indisputable* that “circuit layer” and “die” have the same meaning, and are distinct from a “substrate”—which is included within a “circuit layer” or “die.”

III. Elm Clearly Sought Discovery on Products Based on “Circuit Layer” Thickness

On June 20, 2019, Elm informed Samsung that, “[i]n light of the Federal Circuit’s recent decision,” it “intends to accuse” stacked memory products based on *circuit layer* thickness—not *substrate* thickness: “where at least one circuit layer is stacked above or below another circuit layer, and where at least one of the layers has a thickness of 50 microns or less.” D.I. 377, Ex. 7.

On June 25, 2019, *Elm selected* the products that it believed satisfied this criterion from a spreadsheet that Samsung produced on March 14, 2019, listing all stacked memory products identified to date. D.I. 377, Exs. 8-9. That spreadsheet listed products with “chip” or “die” thickness—not “substrate” thickness—from less than 50 microns to over 700 microns, and *Elm selected* only those products with a “CHIP THICK” of 50 microns or less. *Id.*, Ex. 2; Ex. 9. Over the next sixteen months, Elm repeatedly demanded discovery on products with a “circuit layer” or “die” thickness that is 50 microns or less. *Id.*, ¶¶ 10-51. For example:

- On July 29, 2019, Elm stated: “I sent you a list of the Samsung products we’re aware of that contain at least one *die* at 50µm or less . . .” *Id.*, Ex. 56 (emphasis added).
- On December 15, 2019, Elm demanded that Samsung “produce worldwide sales data for all relevant products (including all stacked semiconductor products that include at least one *die* that is 50 microns or less) . . .” *Id.*, Ex. 29 at 1 (emphasis added).
- On March 14, 2020, Elm emailed Samsung stating that the “‘relevant components’ are semiconductor products with more than one *die* in a vertical stack, where at least one *die* in the stack is 50 microns or less in thickness.” *Id.*, Ex. 30 at 1 (emphasis added).

On May 19, 2020, Elm filed a letter seeking discovery on products with “stacked circuit layers ‘where at least one of the layers has a thickness of 50 microns or less.’” D.I. 280 at 1.

Elm attached to its letter a chart that listed “minimum thickness of the die” and products with 50 microns or less *die* thickness, referring to “die,” “chips” and “circuit layer” interchangeably. D.I. 281, ¶ 51 (seeking “the minimum thickness of the die in the product”), Ex. 30.

On May 22, 2020, Samsung agreed to complete Elm’s chart (D.I. 286 at 1), and filed a declaration of its engineer, Youngok Hyung, explaining that “Samsung was *unable to locate ‘substrate’ thickness* data for its stacked memory products, as that information is *not tracked* in documents maintained in the ordinary course of Samsung’s business operations.” D.I. 286, Ex. M, ¶¶ 9-10 (emphasis added). Ms. Hyung also explained the time-consuming and complex steps that Samsung undertook to ultimately compile *die thickness* data. *Id.*, ¶¶ 11-23.

The Court ordered Samsung to complete Elm’s chart, and on June 19, 2020, Samsung produced a chart that “mirrors . . . Ex. 30 to Elm’s May 19 letter to the Court” and lists the “Min. Die Thickness.” D.I. 377, Ex. 33–34. Samsung updated the chart “to bold nodes that correspond to a die that has a thickness of 50 microns or less.” *Id.*, Ex. 35. On September 10, 2020, Elm sent Samsung a draft representative products agreement based on that chart that identified “Die Thickness” as one of the “characteristics” for grouping products. *Id.*, Ex. 42-43.

The record clearly shows that Elm repeatedly accused and sought discovery on products based on their “die” or “circuit layer” thickness—not “substrate” thickness—for sixteen months.

IV. Elm’s Discovery Requests Using the Term “Semiconductor Layer” Are Immaterial

Despite this record to the contrary, Elm now alleges that its discovery requests were more broadly directed to products having a “semiconductor layer”—such as a substrate—with the required thickness, and that it repeatedly asked for discovery on such products. D.I. 374 at 1-2. Elm cites two examples in support of this contention, but inflates their significance.

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