

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

ELM 3DS INNOVATIONS, LLC,

Plaintiff,

v.

SAMSUNG ELECTRONICS CO., LTD., et al.,

Defendants.

C.A. No. 14-cv-1430-LPS

JURY TRIAL DEMANDED

ELM 3DS INNOVATIONS, LLC,

Plaintiff,

v.

MICRON TECHNOLOGY, INC., et al.,

Defendants.

C.A. No. 14-cv-1431-LPS

JURY TRIAL DEMANDED

ELM 3DS INNOVATIONS, LLC,

Plaintiff,

v.

SK HYNIX INC., et al.,

Defendants.

C.A. No. 14-cv-1432-LPS

JURY TRIAL DEMANDED

MOTION FOR CLARIFICATION UNDER L.R. 7.1.5

I. INTRODUCTION

Pursuant to Local Civil Rule 7.1.5, Defendants move to clarify the construction of the terms “dice is substantially flexible” and “die is substantially flexible” (collectively, “the dice/die terms”).

In its April 13, 2020, *Markman* Order, the Court declared it “now adopts” the constructions for the “substantially flexible” terms previously articulated by the U.S. Court of Appeals for the Federal Circuit. *See* No. 1:14-cv-01430, D.I. 266 at 6-8 (“In [affirming the PTAB], the Federal Circuit construed the ‘substantially flexible’ terms, constructions which this Court now adopts as well.”); *Samsung Elecs. Co. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373 (Fed. Cir. 2019).

Defendants, therefore, understand that the Court intended for its construction of the dice/die subset of the “substantially flexible” terms to accord with the construction set forth by the Federal Circuit—i.e., to be a dice/die that is largely able to bend without breaking and contains a substantially flexible semiconductor substrate, that is thinned to 50 μm or less and subsequently polished or smoothed such that it is largely able to bend without breaking, and a sufficiently low tensile stress dielectric material. *See* 925 F.3d at 1377 n.5, 1380. However, the *Markman* Order does not include either the “substantially flexible substrate” or “sufficiently low stress dielectric material” components of the Federal Circuit’s construction of these terms, which appear to have been inadvertent omissions. *See* D.I. 266 at 6-7. Thus, Defendants respectfully seek to clarify that the Court’s construction of the dice/die terms is the same as those stated by the Federal Circuit, as the Court appears to have intended.

II. ARGUMENT

Defendants sought construction of 16 claim terms, many of which require that components recited in the claims are “substantially flexible.” The *Markman* Order groups the

“substantially flexible” terms into three categories for construction: (i) terms involving a substrate/semiconductor layer, (ii) terms involving dice/die, and (iii) terms involving an integrated circuit/integrated circuit layer/circuit layer/circuit structure/circuit/structure (“the integrated circuit terms”).

For all of the “substantially flexible” terms, the Court made clear that it “now adopts” the same construction previously articulated by the Federal Circuit. *See* D.I. 266 at 6-8 (“[T]he Federal Circuit construed the ‘substantially flexible’ terms, constructions which this Court now adopts as well.”). As stated in the Order,

[T]he Federal Circuit’s construction sets out three requirements, relating to (1) the substrate’s thickness; (2) the substrate’s processing; and (3) the substrate’s flexibility. Specifically, the proper construction requires that the substrate “is thinned to 50 μm [or less] and subsequently polished or smoothed such that it is largely able to bend without breaking.” Likewise, for the “circuit layer” and “integrated circuit” terms, the Federal Circuit “interpret[ed] a substantially flexible circuit layer as a circuit layer that is largely able to bend without breaking and contains a substantially flexible semiconductor substrate and a sufficiently low tensile stress dielectric material.”

Id. at 9 (emphasis omitted). The Order then construed the substrate/semiconductor layer terms to include the Federal Circuit’s three requirements. *Id.* at 6. The Order also applied the Federal Circuit’s construction to the integrated circuit terms. *Id.* at 7. Nonetheless, the Order’s construction of the dice/die terms does not track the Federal Circuit’s construction of those terms. *See* D.I. 266 at 6-7. The Order did not, however, state an intention to depart from the Federal Circuit’s construction nor any explanation for doing so, leading Defendants to believe that the departure may have been inadvertent.

Dice and die are technically similar to circuit layers and integrated circuits—therefore, the Federal Circuit grouped them together for construction. The Federal Circuit stated that “a substantially flexible circuit layer, *and similar terms*, must contain a substantially flexible

semiconductor substrate and a sufficiently low tensile stress dielectric material.” D.I. 266 at 12 (quoting 925 F.3d at 1379) (emphasis added); *see id.* at 1377 (“‘Substantially flexible’ is also used to modify ‘circuit layers,’ and other similar terms.”). To explain what constituted “similar terms” for construction, the Federal Circuit cited exemplary claims that reference a “die,” an “integrated circuit layer,” and “integrated circuits.” *See* 925 F.3d at 1377 n.5. The Federal Circuit further stated:

All claims except claims 60, 67, 70, and 77 of the ’239 patent; claims 1 and 44 of the ’542 patent; claim 1 of the ’119 patent; and claim 58 of the ’570 patent explicitly require a low tensile stress dielectric. ***These claims recite either a substantially flexible die or integrated circuit, meaning they too require a low tensile stress dielectric*** under the proper claim construction.

Id. at 1383 (emphasis added). Thus, the Federal Circuit’s “construction of ‘substantially flexible’ applies across all its uses”—i.e., to die, dice, integrated circuit layers, and integrated circuits. *Id.* In essence, the Federal Circuit explained that the relevant claims (i.e., those that do not explicitly require a low tensile stress dielectric) “recite either a ***substantially flexible die*** or integrated circuit, meaning they too ***require a low tensile stress dielectric*** under the proper claim construction.” *Id.* (emphasis added).

The parties also understood that the construction of the “dice/die” terms should mimic the construction of the integrated circuit terms, and crafted their arguments accordingly. For example, Elm’s opening claim construction brief states that the “dice/die” terms should include limitations regarding stress, thinning, and polishing: “The patent teaches that to make flexible semiconductor die that can be stacked, these dielectric materials should be ‘low stress’ and the substrate is thinned, polished, and substantially flexible.” D.I. 236 at 5. Elm’s expert likewise opined that “[s]imilar arguments are made for ‘substantially flexible integrated circuit’ and related phrasings, and for ‘dice that are substantially flexible’ and related phrasings. Since these

all clearly refer to the same thing in the patents . . . I treat these together.” *See* D.I. 240 Ex. A (Baker Decl.) at 34.

Defendants likewise proposed that the terms “dice is substantially flexible” and “die is substantially flexible,” if not indefinite, should be construed consistent with the Federal Circuit’s construction to mean “diced substantially flexible integrated circuit,” where “substantially flexible integrated circuit” means an integrated circuit that contains a “substantially flexible substrate” and a low stress dielectric. D.I. 194 at 3.

Throughout the course of the litigation, the parties have agreed that an integrated circuit is equivalent to a die. *See, e.g.*, D.I. 1 ¶ 2 (“[T]he Elm 3DS patents disclose technologies that enable semiconductor manufacturers to stack multiple integrated circuits (‘die’) on top of one another within one integrated circuit package.”); D.I. 18 ¶ 2 (same); D.I. 109 ¶ 2 (same).

The Federal Circuit also understood that the parties were grouping the dice/die terms and integrated circuit terms: “The parties do not treat this difference in terminology as affecting the construction of ‘substantially flexible.’ Accordingly, our construction of ‘substantially flexible’ applies across all its uses”—i.e., to dies, integrated circuit layers, and integrated circuits alike. 925 F.3d at 1377 n.5.

Thus, given (i) that the parties and the Federal Circuit all understood that dice and die were technically similar to circuit layers and integrated circuits for purposes of construction and (ii) the Court’s apparent intent to “now adopt” the Federal Circuit’s constructions of these terms, Defendants seek to clarify that the Court’s construction of the “dice/die” terms is in accord with the Federal Circuit’s instruction—i.e., dice/die “that is largely able to bend without breaking and contains a substantially flexible semiconductor substrate, that is thinned to 50 μm or less and subsequently polished or smoothed such that it is largely able to bend without breaking, and a sufficiently low tensile stress dielectric material.”

Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.