

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

Stratasys, Inc.,	§	
	§	
<i>Plaintiff,</i>	§	
	§	
v.	§	
	§	
Shenzhen Tuozhu Technology Co., Ltd., <i>et</i>	§	Case No. 2:24-cv-00644-JRG
	§	(Lead Case)
<i>al.,</i>	§	
	§	
<i>Defendants.</i>	§	

Stratasys, Inc.,	§	
	§	
<i>Plaintiff,</i>	§	
	§	
v.	§	
	§	
Shenzhen Tuozhu Technology Co., Ltd., <i>et</i>	§	Case No. 2:24-cv-00645-JRG
	§	(Member Case)
<i>al.,</i>	§	
	§	
<i>Defendants.</i>	§	

BambuLab USA, Inc., <i>et al.,</i>	§	
	§	
<i>Plaintiffs,</i>	§	
	§	
v.	§	
	§	
Stratasys, Inc.	§	Case No. 2:25-cv-00465-JRG
	§	(Member Case)
<i>Defendant.</i>	§	
	§	
	§	

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I. INTRODUCTION

Plaintiff Stratasys, Inc. (“Stratasys”) asserts that Defendants Shenzhen TuoZhu Technology Co., Ltd., Shanghai Lunkuo Technology Co., Ltd., BambuLab Limited, and TuoZhu Technology Limited, and Counter-Defendant BambuLab USA, Inc. (“Bambu”) infringe claims from ten of its patents directed at various aspects of 3D printing.¹ The Asserted Patents use simple terms in plain English to convey the inventive concepts. Bambu, however, feigns confusion despite having understood and the plain meaning of the disputed terms when it pursued IPR challenges for the Asserted Patents. As explained below, a POSITA would have no trouble understanding the plain meaning of the *twenty-four* disputed terms. Bambu’s constructions are inconsistent with the intrinsic record and counter to the plain meaning. For the reasons explained below, the Court should reject Bambu’s constructions and accord the disputed terms their plain meaning.

II. LEVEL OF ORDINARY SKILL FOR ASSERTED PATENTS

A person of ordinary skill in the art (“POSITA”) would have had a Bachelor’s degree in a relevant field (as defined below) or an equivalent field and at least two years of academic or industry experience related to 3D printing; more experience may substitute for a formal degree or training (and vice versa). *See* Ex. K at ¶¶23-26. The relevant fields are as follows (*see id*):

’357 and ’713 Patents	Mechanical, Computer, or Chemical Engineering, or Materials Science
’097 and ’324 Patents	Mechanical, Computer, or Electrical Engineering, or Materials Science
’660 Patent	Mechanical or Chemical Engineering, or Materials Science
’466, ’464, and ’774 Patents	Mechanical, Computer, Electrical, or Chemical Engineering, or Materials Science

¹ The asserted claims are U.S. Patent Nos. 10,569,466 (claims 1-5, 7-12, 16-17, 19-20) (Ex. A1); 11,167,464 (cls. 1-6, 12-15, 17, 18) (Ex. A2); 8,562,324 (cls. 1, 3, 5-11, 17-22) (Ex. A3); 8,747,097 (cls. 1-2, 4-5, 8-12, 14-18) (Ex. A4); 9,421,713 (claims 1-2, 5-7, 9, 16-17) (Ex. A5); 7,555,357 (cls. 1-19) (Ex. A6); 9,592,660 (cls. 1, 2, 4, 6-8, 10-12, 14) (Ex. A7); 11,886,774 (cls. 1-6, 8-10, 12-13, 19) (Ex. A8); 9,168,698 (cls. 1-5, 7-10, 12, 15); and 10,556,381 (cls. 1-2, 5-6, 9, 11-12, 14) (collectively, Asserted Patents).

III. DISPUTED TERMS OF U.S. PATENT NOS. 10,569,466 AND 11,167,464

A. Background for the '466 and '464 Patents

The '466 and '464 Patents address inefficiencies in 3D printing caused by the need for users to manually configure printing settings for each new material. Prior art printers needed user input or guesswork to determine operational parameters such as temperature, feed rate, or cooling requirements—leading to print errors and inconsistent results. The claimed invention solves these problems by providing a build material supply (*e.g.*, spool) with an embedded data tag storing information about the material's properties. The 3D printer reads this tag to determine optimal print setting or transmits the data to a controller for remote configuration. By determining settings, the invention reduces setup time, prevents user error, and ensures consistent results.

B. “providing a three-dimensional printer that includes a tag sensor” / “providing a three-dimensional printer that includes a controller and a tag sensor;” ('466, cls. 1 / 19)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	<p>“providing a three-dimensional printer that includes a tag sensor”: Providing a three-dimensional printer with an integrated tag sensor</p> <p>“providing a three-dimensional printer that includes a controller and a tag sensor”: Providing a three-dimensional printer that includes a controller and an integrated tag sensor</p>

The disputed terms use plain English words with readily understandable meanings. Bambu seeks to inject the requirement that the tag sensor be “*integrated*.” But nothing in the intrinsic record requires an “integrated” tag sensor, whatever that might mean. There is no lexicography, no disclaimer, and no basis for a POSITA to equate “includes” with “integrated.”

Bambu's construction finds no support in the intrinsic record. The '466 Patent never requires an “*integrated*” tag sensor, and Bambu's construction rewrites claim language without support. *See K-2 Corp. v. Salomon SA*, 191 F.3d 1356, 1364 (Fed. Cir. 1999) (rewriting claims is improper). Claims 1 and 19 simply state that the printer “*includes*” a tag sensor, and claim 16

identifies types of sensors. Ex. A1 at 23:32-40, 24:43-46, 24:54-60. The specification expressly describes embodiments where the tag sensor is an “add-on component” to the printer. *Id.* at 20:64–21:4; Fig. 3 (showing tag sensor 310 external to printer 306). The prosecution history likewise contains no disclaimer requiring “integrated” sensors. *See* Dkt. No. 78-2 at 1-2.

Unable to find support in the intrinsic record, Bambu turns to other patents—the ’464 Patent and U.S. Patent No. 9,233,504 (“the ’504 Patent”)—which recite tag sensors “communicatively associated” with a printer. *Id.* (citing Ex. A2, cls. 1, 12, 19; Ex. B (’504 Patent), cl. 1). But differences in claim language across patents do not justify importing a limitation into another. *See Maquet Cardiovascular LLC v. Abiomed Inc.*, 131 F.4th 1330, 1340 (Fed. Cir. 2025) (requiring a focus on differences in claim language when evaluating related patent); *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1324 (Fed. Cir. 2003) (requiring “definitive statements” for disclaimer). The Court should reject Bambu’s attempt to rewrite a simple, well-understood term with an ambiguous term and instead apply the claim language as written.

C. “receiving one or more operational parameters from the client selected for use in controlling operation of the three-dimensional printer” / “determining an operational parameter for configuring the three-dimensional printer” (’466, cls 1 / 19) / “determining an operational parameter” / “a processor configured to determine an operational parameter” (’464, cls. 1 / 12)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	<p>“receiving one or more operational parameters from the client selected for use in controlling operation of the three-dimensional printer”: receiving one or more operational parameters from the client automatically selected for use</p> <p>“determining an operational parameter for configuring the three-dimensional printer”: automatically determining an operational parameter</p> <p>“determining an operational parameter”: Automatically determining an operational parameter</p> <p>“a processor configured to determine an operational parameter”: A processor configured to automatically determine an operational parameter</p>

The parties dispute whether the operational parameter(s) must be “*automatically*” selected or determined. Bambu’s construction excludes user intervention, without any basis. The plain and ordinary meaning is clear to a POSITA. Nothing requires *automatic* selection or determination.

Claim 1 of the ’466 Patent provides that operational parameters are “selected for use in controlling [printer] operation,” and dependent claim 6 adds that the system may provide “a recommendation to the client for selecting the” parameter(s). Ex. A1 at 23:44-48, 24:1-4; *see also id.* at 24:62-65 (cl. 19). Likewise, claim 1 of the ’464 Patent recites “determining an operational parameter,” and claim 12 specifies “a processor configured to determine an operational parameter of a fabrication process.” Ex. A2 at 23:38-40, 24:33-35. Neither patent requires automatic selection or determination. The specifications describe multiple embodiments—one where the printer “may determine some or all of the operational parameters,” and another where a remote source “may determine some or all of the operational parameters.” Ex. A1 at 17:18-27; Ex. A2 at 17:19-28. That a client device may participate in selecting or determining the parameters confirms that user involvement is expressly contemplated. *Id.* at 16:41-55. The specification further explains that the client may select a supply “for use in fabricating the object,” determine the parameters for that supply, and transmit them back to the printer. *Id.* at 16:50-55; Ex. A2 at 16:51-56. It also envisions user instructions—such as recycling labeling preferences—guiding fabrication decisions. Ex. A1 at 17:28-45; Ex. A2 at 17:29-46.

Bambu relies on the prosecution history of a different patent application (No. 14/064,974), which issued as the ’504 Patent, but nothing in that record supports any disclaimer of claim scope. The ’504 Patent claims are materially different from those in the ’466 and ’464 Patents, and those differences alone defeat Bambu’s argument. *See Maquet*, 131 F.4th at 1340. The ’504 claims do not require fabricating an object “according to” or “based upon” the operational parameter. *See*

Ex. C at 97. In contrast, the asserted claims here expressly require fabrication “according to the one or more operational parameters” (*see* Ex. A1 at 23:49-50, 25:6-7) or “controlling operation ... according to the operational parameter” (*see* Ex. A2 at 23:50-53, 24:46-49, 25:18-21).

Nor is there any “clear and unmistakable” disclaimer in the ’504 prosecution history. *See Omega Eng’g*, 334 F.3d at 1325-26. At most, the patentee explained that a controller *may* automatically configure or control the printer using tag information—an optional feature, not a limitation. *See* Ex. C at 100-01. The applicant was not distinguishing the invention from prior art based on “automatic control.” *See id.* at 101; *3M Innovative Props. Co. v. Tredegar Corp.*, 725 F.3d 1315, 1326 (Fed. Cir. 2013) (“Where an applicant’s statements are amenable to multiple reasonable interpretations, they cannot be deemed clear and unmistakable.”). In fact, the cited prior art (Wahlstrom) in the ’504 prosecution was distinguished simply because it failed to disclose determining any operational parameter at all—the tag in Wahlstrom “was used exclusively to detect the presence and type of a resin,” without using that information to determine an operational parameter. *See id.* Accordingly, there is no disavowal or disclaimer in the ’504 prosecution history.

The intrinsic record confirms that operational parameters may be chosen through user input, not *automatically*. Bambu’s proposed construction rewrites clear claim language to add a limitation the patentee never adopted, and the Court should reject it.

IV. DISPUTED TERMS OF U.S. PATENT NOS. 8,562,324 AND 8,747,097

A. Background for the ’324 and ’097 Patents

The ’324 and ’097 Patents claim priority to the same application and are directed at networked 3D printing that allows users to monitor and manage the printing process. The patents improve 3D printing, for example, by equipping a networked printer with a built-in 3D scanner and machine-vision system. Previously, 3D printers operated without real time oversight—unable to detect print errors until fabrication was complete—wasting time, materials, and labor. The

claimed invention overcomes these problems by enabling the printer to capture real-time 3D data of the object as it is built, compare that data to the digital model, and detect/correct errors during printing. Live status updates and images are transmitted to remote users, allowing continuous monitoring and control. This combination of inspection, error detection, and networked communication transforms manual 3D printing process into an intelligent connected system.

B. “processor configured to receive a three-dimensional model” (’324, cls. 1, 19)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	A processor configured to receive a data structure representing the geometry of a three-dimensional object

Bambu’s proposed construction replaces an easily understood term (“three-dimensional model”) with a lengthy and convoluted phrase that finds no support in the record (“a data structure representing the geometry of a three-dimensional object”). “[T]hree-dimensional model” is a widely used, easily understood, term with a plain meaning.

The intrinsic record does not require that a 3D model be limited to “a data structure representing the geometry of a three-dimensional object.” In fact, the intrinsic record never refers to a “data structure” or “geometry of” a 3D object, let alone the former “representing” the latter and being referred to as a “three-dimensional model.” Bambu cites embodiments where 3D models may be converted into a representation with tool instructions, but the patent does not limit the claims to just those embodiments. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 913 (Fed. Cir. 2004). In the absence of lexicography or disclaimer, plain meaning governs.

Moreover, it is unclear *what* Bambu’s proposed construction means. To the extent Bambu seeks to preclude a model containing non-geometric information, it conflicts with the specification, which provides that a model “may include a type (*e.g.*, tool, game, home, art, jewelry, replacement part, upgrade part, etc.).” Ex. A3 at 15:39-41. By injecting limitations into the claim, Bambu’s

proposal improperly seeks to narrow the term to computer automated design (CAD) files, which ignores the fact that the patentee knew how to refer to a CAD “format” and chose not to do so. Ex. A3 at 16:35-36; *see Mondis Tech., Ltd. v. Hon Hai Precision Indus. Co. Ltds.*, No. 2:07-CV-565-TJW-CE, 2011 WL 245507 at *26 (E.D. Tex. Jan. 24, 2011) (construing “signal” broadly “to reflect” the patentee’s knowledge and their decision to draft claims reflecting that knowledge).

C. “two-dimensional projection of the three-dimensional model” (’324, cls. 1, 3, 5, 6, 19)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	two-dimensional image derived from a three-dimensional computerized model

Bambu’s construction is an impermissible import of limitations into the claim. The disputed term is composed of common words that are easily understood. Nothing in the intrinsic record constitutes lexicography or disclaimer, and thus, the plain and ordinary meaning should be applied. Bambu asks the Court to improperly redraft the claims to introduce an unwarranted limitation that excludes *claimed* embodiments of the ’324 Patent, which demonstrate that “the two-dimensional projection may be obtained from a three-dimensional scanner or other data acquisition device,” such as a video camera. Ex. A3 at 24:61-25:5; *see also id.* cls. 2, 6. Because Bambu’s construction (“*derived from* a three-dimensional computerized model”) excludes projections obtained from a 3D scanner, other data acquisition device, or a video camera, Bambu’s proposed construction is improper. *See K-2*, 191 F.3d at 1364. Furthermore, “derived from” appears nowhere in the intrinsic record. Contrary to Bambu’s proposed construction, the specification is clear that the projection “may be any suitable rendering, simulation, or other visualization of the model.” Ex. A3 at 24:58-61. Nothing in the intrinsic record supports Bambu’s attempt to rewrite the claims.

D. “pass/fail evaluation” (’097, cl. 11)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

The disputed term is readily understandable by a POSITA, particularly given the specification of the ’097 Patent, which states that a “pass/fail evaluation” is one of “a variety of imaging-based automatic inspection, process control, and/or robotic guidance functions for the three-dimensional printer.” Ex. A4 at 6:34-50. The specification additionally states that a notification may be provided “if a print job fails to complete.” *Id.* at 20:15-20. The term uses simple words with clearly understood meanings, and Bambu has presented no evidence to the contrary. Bambu cannot meet its burden to prove indefiniteness by clear and convincing evidence. *Sonix Tech. Co. v. Publ’ns Int’l, Ltd.*, 844 F.3d 1370, 1377 (Fed. Cir. 2017).

Bambu’s argument that this term is not understandable is belied by Bambu’s clear understanding of it in IPR proceedings. Bambu understood the term when filing an IPR against the ’097 Patent and it identified a “pass/fail evaluation” in prior art references. Ex. D-3 at 49-50, 78, 83-84. Bambu also argued that “it would have been beneficial to have the machine vision system provide an automatic pass/fail evaluation such that the fabrication process can be stopped.” *Id.* at 49-50, 83-84. Finally, Bambu’s expert, Dr. Wolfe, also understands the term without hesitation. In the IPR, Dr. Wolfe demonstrated his understanding of “pass/fail” by stating that detecting errors and terminating a build is a “fail” determination, and where that “failure criteria” is not met constitutes a “pass” determination. Ex. D-4 ¶¶ 130, 192, 208. At his deposition in this case, Dr. Wolfe further confirmed that a POSITA would understand the claim language (including “pass/fail evaluation”) in its plain words, without any confusion. Ex. W (Wolfe Dep.) at 99:4-20. This supports a finding that the term is not indefinite, and an application of the plain and ordinary meaning. *Sonix*, 844 F.3d at 1379-80.

E. “a machine vision system configured to capture and analyze image content” (’097, cls. 1, 9-12, 14-18)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	a machine vision system configured to capture and analyze one or more graphic pictures

Bambu’s construction seeks to interpret “image content” as “one or more graphic pictures,” because Bambu leaves the remaining portion of the term alone. But the term “image content” is a simple term with a plain meaning. And “graphic pictures” never appears in the intrinsic record.

In addition, Bambu’s construction contradicts its own understanding of “image content” used in its IPR. For example, Bambu’s construction would exclude content produced from a three-dimensional scan as being “image content,” but Bambu characterized analysis of three-dimensional scans as analysis of “image content” in its IPR petition. *See* D-3 at 30-32, 63-66; Ex. D-4 ¶¶ 52, 96-101, 168-173. To make matters worse, Bambu’s proposed construction is at odds with its *own expert’s* understanding of “image content.” Ex. W (Wolfe Dep.) at 67:11-68:4 (testifying that “image content” would include “videos” and not just graphic “pictures”).

Moreover, nothing in the intrinsic record constitutes lexicography or disclaimer. Bambu cites embodiments in which the machine vision system captures images (though these are still not limited to “graphic pictures”), but the ’097 Patent is not limited to just those embodiments. *See Liebel-Flarsheim*, 358 F.3d at 913. Bambu cites applicant’s statement during prosecution stating how the “machine vision system captures images from the scanner and analyzes image content.” Ex. D-2 at 256. But this statement did not clearly or unmistakably surrender the full scope of the term “image content” as required to disclaim that scope. *Cordis Corp. v. Bos. Sci. Corp.*, 561 F.3d 1319, 1329 (Fed. Cir. 2009). It merely provided context to clarify why the invention was distinguished from the prior art that did not teach capturing “three-dimensional information from *an object being fabricated* within the build volume *during a print job* executing on the three-

dimensional printer.” Ex. D-2 at 256 (emphasis in original). Bambu’s construction is not claim interpretation—it is claim revision—and the Court should reject it. *See Lionara Techs. Ltd. v. Cisco Sys., Inc.*, No. 2:24-CV-00097-JRG, 2025 WL 1384261 at *6 (E.D. Tex. May 13, 2025).

F. “misalignment of layers” (’097, cl. 18)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

The term “misalignment of layers” is not indefinite—it is both textually clear and technically understood by a POSITA. The claim language provides clear context. The term appears only in dependent claim 18 of the ’097 Patent, which depends on claim 16, which in turn depends on claim 1. Claim 1 requires a “machine vision system” configured to capture and analyze image content. Claim 16 specifies that the system compares an actual 3D object with an expected result. Claim 18 then adds that “the machine vision system is configured to detect a misalignment of layers.” Ex. A4 at cl. 18. The plain language leaves no ambiguity: the machine vision system—not a user—is responsible for detecting misalignment.

The specification reinforces this understanding. It describes a 3D object being formed “by depositing successive layers of material in two dimensional patterns,” as shown in Figure 1. Ex. A4 at Fig. 1, 4:35-41; Ex. K ¶ 54. A POSITA would understand “layers” to refer to these deposited sequences typical in 3D printing. And the term “misalignment” is a widely used English word.² A

² Misalignment simply refers to the state of not being aligned. Courts have held such terms (*e.g.*, “align” or “aligned”) are commonly used English words that have a plain and ordinary meaning and need no construction. *See e.g., Maglula v. Amazon.com*, Case No. 1:19-cv-1570, Dkt. 510 (E.D.Va., Jul. 9, 2021) (“‘Align,’ ‘aligning,’ and ‘aligned’ need no construction. The plain and ordinary meaning shall apply.”); *Impulse Downhole Solutions v. Downhole Well Solutions*, Case No. 4:23-cv-2954, Dkt. 79 (S.D. Tex., Dec. 23, 2024) (plain and ordinary meaning). In fact, Bambu’s counsel has previously agreed with this position, stating in another litigation that “‘Aligned’ should be given its plain and ordinary meaning.” *See, Keranos v. Analog Devices*, Case No. 2:10-cv-207-MHS, Dkt. 685 at 30 (E.D. Tex., Nov. 6, 2012). Bambu’s current claim of

POSITA would readily understand how to recognize when those layers are not aligned. Ex. K ¶ 56. Indeed, such misalignments are a well-known type of error in 3D printing. *Id.*

Despite this clarity, Bambu argues the term is indefinite. But even Bambu’s own expert disagrees. Dr. Wolfe testified that a POSITA would understand what “layers” means in the context of 3D printing and would generally understand the concept of “misalignment of layers.” Ex. W (Wolfe Dep.) at 106:21-107:4, 109:10-24. Faced with this admission, Bambu cannot carry its burden of proving indefiniteness by clear and convincing evidence.

Bambu’s argument that misalignment is “subjective”—*i.e.*, dependent on whether a user is “unhappy with the results”—also fails. Ex. I (Wolfe Decl.) ¶ 37. The claim does not say the user determines misalignment; it expressly states the machine vision system is configured to detect misalignment. That Bambu and its expert fundamentally misunderstand how misalignment is assessed in the claims is telling. Bambu’s argument seeking numerical threshold on the amount of misalignment is meritless. Where the claim does not require a threshold, Bambu cannot inject one under the guise of “indefiniteness.” After all, the Federal Circuit does not require any mathematical thresholds that Bambu and its expert demand and, indeed, patentees are not required to define the invention “with mathematical certainty.” *Niazi Licensing Corp. v. St. Jude Med. S.C., Inc.*, 30 F.4th 1339, 1347 (Fed. Cir. 2022).

The prosecution history further confirms the term is readily understandable because the Examiner rejected claims based in part on the prior art’s ability to detect “misalignment of layers.” Ex. D-2 at 140. The Examiner had no difficulty understanding the term or applying it to prior art. Nor did Bambu—in subsequent IPR proceedings, Bambu and its expert repeatedly identified

uncertainty of “misalignment”—a simple derivative of “alignment”—is unconvincing and contradicted by its counsel’s prior representations in federal court.

disclosures of “misalignment of layers” in the prior art, citing them as evidence of unpatentability. Ex. D-3 at 44-45, 53-54, 81-82, 87-88; *see also* Ex. D-4 ¶¶ 62-65, 120-121, 146-150, 201, 223-227. If the term were truly indefinite, it could not have been applied with such confidence in multiple invalidity arguments by Bambu. *See Sonix*, 844 F.3d at 1379-80.

In short, Bambu and its expert cannot credibly claim the term is indefinite when they have admitted it is understood by a POSITA, and have also relied on that understanding in an IPR.

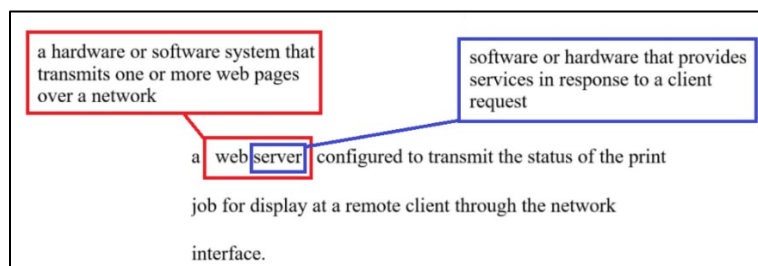
G. “web server” / “server” (’097, cls. 1, 4, 5)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	<p>“web server”: a hardware or software system that transmits one or more web pages over a network</p> <p>“server”: software or hardware that provides services in response to a client request</p>

The terms “web server” and “server” are well-known and nothing compels importing limitations from the specification into the claims. *Liebel–Flarsheim*, 358 F.3d at 906 (“[A] patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope”). The term’s plain meaning is evident from the intrinsic record. Claim 1 recites “a web server configured to transmit the status of the print job for display at a remote client through the network interface.” Ex. A4 at cl. 1. Claims 5 and 6 add related limitations, including a web server configured “to host a remote user” and one that “displays status information from” sensors. *Id.* cls. 5–6. The specification confirms that the “status” information can be transmitted in various forms—such as via a user interface, e-mail, or text message—and “through any other suitable communication medium.” *Id.* at 25:6–17. In a networked 3D printing environment (Fig. 3), the “web server” merely “provides web-based access” over a data network like the Internet. *Id.* at 8:7-10, 8:16-27, 9:15-17, 12:28-30. Thus, a “web server” provides access over the web for networked devices and transmits the print job status for display at a remote client.

Nothing in the intrinsic record supports importing limitations into the claim as Bambu does here. *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). There is no requirement that a web server must be a “system” that transmits “web pages” to the exclusion of other content. While Bambu cites embodiments describing web pages (*see, e.g.*, Ex. A4 at 6:29–30), the patent never limits the invention to that implementation, whether by lexicography, disclaimer, or otherwise. *See Liebel–Flarsheim*, 358 F.3d at 913 (requiring a “clear indication” that the patentee intended such a limitation). Bambu’s proposed construction of “web server” to require transmission of “web pages” is flatly inconsistent with the claim language, which requires only that the web server “transmit the status of the print job.” If the status is transmitted in a manner other than through a “web page”—for example, by e-mail, text, or another interface—Bambu’s construction would effectively read the claim’s express language out of existence. The Federal Circuit forbids constructions that negate or exclude disclosed embodiments or narrow clear claim terms. *See, e.g., Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583-84 (Fed. Cir. 1996).

Additionally, Bambu seeks to construe “web server” and “server” separately even though “server” does not appear in the claims separate and apart from “web server.” If Bambu’s constructions were adopted, the claim would become nonsensical:



Bambu’s approach would yield a confusing set of nested constructions where one construction contradicts the other, leading only to jury confusion. *Promptu Sys. Corp. v. Comcast Corp.*, 92 F.4th 1372, 1381 (Fed. Cir. 2024) (“Importantly, a claim construction, if needed at all, should help

resolve, not add to, uncertainty in the understanding the finder of fact is to use in applying a claim term.”). Indeed, Bambu’s own definitions are incompatible: its “web server” transmits web pages, while its “server” responds only to client requests—meaning that, under Bambu’s logic, the “server” could not transmit anything unless first prompted by a client. But that is the opposite of what the claim requires. The Court should reject Bambu’s effort to fracture a well-understood term into conflicting layers of meaning that distort the plain language and invite jury confusion.

V. DISPUTED TERMS OF U.S. PATENT NO. 9,421,713

A. Background for the ’713 Patent

The ’713 Patent is directed to manufacturing systems that print 3D parts and support structures using “purge operation techniques.” Ex. A5 at 1:6-13. The ’713 Patent improves how 3D printers switch between different materials during printing. Before this invention, printers used separate purge stations to clear material from the print heads, which wasted material, took up space, and required manual cleaning. The patent solves these problems by using a “purge tower” printed next to the part itself. When the printer switches materials, it deposits a thin layer on the purge tower instead of wasting material in a separate station. This approach reduces material waste, preserves build volume, and enables fully automated additive manufacturing—achieving the benefits of purging without the drawbacks of prior systems.

B. “deposition line” and “stand-by mode” (cls. 1, 2)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	<p>“deposition line”: a line that heats and deposits material</p> <p>“stand-by mode”: a mode in which the print head or deposition line is not heating any material for extrusion</p>

Bambu’s constructions are classic examples of impermissibly importing limitations into the claim. The terms “deposition line” and “stand-by mode” have plain and ordinary meanings to

a POSITA, and nothing in the intrinsic record constitutes lexicography or disclaimer. Indeed, Bambu’s own expert, Dr. Hickner, refutes Bambu’s constructions in favor of plain and ordinary meaning. As such, the plain and ordinary meanings should be applied. *Thorner*, 669 F.3d at 1365.

At no point in the intrinsic record did the patentee suggest that the “deposition line” must be “a line that *heats* and deposits material” or that “stand-by mode” must be “a mode in which the print head or deposition line is *not heating* any material for extrusion.” Bambu has identified some embodiments that describe how in the operating mode a liquefier assembly *can* heat material. *See* Dkt. No. 78-2 at 9-10. But nothing *requires* heating and Bambu has provided no justification for its impermissible attempt to read these embodiments into the claims.

First, as the Court is well aware, “it is improper to read limitations from a preferred embodiment described in the specification ... into the claims absent a clear indication in the intrinsic record that the patentee intended the claims to be so limited.” *Liebel-Flarsheim*, 358 F.3d at 913. Here, there is plainly no intent to limit the claims. Second, with respect to Bambu’s imposed requirement that the deposition line “heats ... material” and that the stand-by mode requires “not heating any material for extrusion,” Bambu ignores that the patentee knew how to add such “heating” requirements into the claims. *See* Ex. A5, cl. 11 (reciting “heating a liquefier assembly of the first print head or deposition line”). That patentee added a “heating” requirement to claim 11 is further confirmation that importing that limitation into the disputed terms in claims 1 and 2 would be improper under claim differentiation. *See Comark Commc ’ns, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998); *Phillips v. Awh Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005).

Bambu’s proposed construction cannot stand because it is flatly contradicted by its own expert, Dr. Hickner. In the parallel IPR proceeding, Dr. Hickner admitted that a POSITA would understand “deposition line” does not necessarily require heating. Ex. T at 86:1-14. He further

testified that “in some cases standby mode doesn’t incorporate the variable of temperature at all because some materials don’t require heating to be printed.” *Id.* at 90:22–92:21. He also acknowledged that other standby modes may maintain temperatures as high as “150 degrees Celsius,” which *requires* heating. *Id.* at 91:22–92:21. These admissions expose the fatal flaw in Bambu’s position: its current constructions contradict both the technical understanding of a POSITA and the very testimony of its own expert. Notably, Bambu advanced no such definitions in the IPR, confirming its newfound interpretations are litigation-driven.³

Other extrinsic evidence confirms that Bambu’s constructions are contrary to the plain meaning of these terms. For instance, dictionary definitions from the time confirm that “stand-by mode” has a common understanding that does not include Bambu’s “not heating” requirement. *See, e.g.*, Ex. Q at 1703 (“A mode of operation ... in which the power is on and the device is ready for immediate use.”; “Kept in reserve for use when needed”). In short, Bambu’s attempt to import limitations finds no support in the intrinsic or extrinsic record, including Bambu’s own expert who confirmed that “deposition line” and “stand-by mode” are not limited as Bambu proposes.

VI. DISPUTED TERMS OF U.S. PATENT NO. 7,555,357

A. Background for the ’357 Patent

The ’357 Patent relates to “forming a three-dimensional object using an extrusion-based layered deposition system” by generating “a build path for building a layer of the three-dimensional object, where the build path defines a void region.” Ex. A6 at Abstract, 2:7-11. The ’357 Patent addresses defects in extrusion-based 3D printing caused by unfilled areas or void regions that form when the software generates build paths using a fixed road-width resolution.

³ Bambu proposed *two* different constructions related to the “deposition line” in the IPR, neither of which required that the deposition line “heats and deposits material.” Ex. S at pp. 5-7.

Prior systems ignored void regions smaller than the set path width, leaving cavities that weakened parts and reduced sealing performance. The claimed invention solves this problem by identifying void regions within each printed layer and generating “remnant paths” with variable deposition rates to fill those spaces. By adjusting material flow to match void regions’ dimensions, the invention reduces porosity and preserves structural integrity of the printed object.

B. “determining dimensions of the void region” (cls. 1, 8) / “determining the dimensions of the void region” (cls. 4, 12)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	determining dimensions of the void region with at least one generated raster path / determining the dimensions of the void region with at least one generated raster path

Bambu concedes that the disputed phrases are readily understandable by including those same phrases in their proposed constructions. Instead of construing the disputed phrases, Bambu injects additional limitations into the claims. That attempt should be rejected. *Liebel-Flarsheim*, 358 F.3d at 913 (“[I]t is improper to read limitations from a preferred embodiment”).

Nothing in the intrinsic record constitutes lexicography or disclaimer, and the record makes clear the claim language is *not* limited as Bambu proposes. *See Thorner*, 669 F.3d at 1365 (stating that the “ordinary and customary meaning” should be applied in these circumstances). For example, claim 1 requires “determining dimensions of the void region based at least in part on the at least one generated intermediate path.” Ex. A6, cl. 1. Claim 3, which depends from claim 1, then provides that “the at least one intermediate path comprises a raster path.” *Id.*, cl. 3.⁴ Bambu’s construction that the dimensions of the void region are determined “with at least one generated

⁴ Independent claim 8 does not even require an intermediate path, which is recited in dependent claim 10, and then like claim 3, dependent claim 11 requires that the “intermediate path comprises a raster path.” *Id.*, cls. 8, 10, 11.

raster path” is a blatant attempt to read claim 3’s limitation into claim 1. The doctrine of claim differentiation precludes Bambu’s argument. *See Phillips*, 415 F.3d at 1315 (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”); *see also Arbor Glob. Strategies LLC v. Samsung Elecs. Co.*, No. 2:19-CV-00333-JRG, 2020 WL 7074877 at *16 (E.D. Tex. Dec. 3, 2020).

The specification also makes clear that “other types of intermediate paths may be used to calculate the dimensions of void region 20 and generate remnant path 21” besides a raster path. Ex. A6 at 5:36-46; *see also id.* at 6:12 (“raster path 50 (or any alternative intermediate path)”). The Court should reject Bambu’s attempt to inject into the claims limitations that are counter to the surrounding claim language and the express teachings of the specification.

C. “void region” (cls. 1, 4, 7-10, 12, 14-16, 18)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

The term “void region” is readily understood by a POSITA both in view of the specification and for its use generally in the art.⁵ Voids were well known, as Bambu’s expert admits, and “void region” simply refers to the region or the area where a void exists, as the plain meaning conveys.

A POSITA would understand the term “void region” in view of the intrinsic record. First, the claim language would inform the POSITA’s understanding, including that the “void region” is defined in relation to the build path. *See, e.g.*, Ex. A6, cl. 1 (“the build path defines a void region”), cl. 8 (“identifying a void region in the build path;”), cl. 15 (“the build path defines a void region

⁵ Notably, Bambu even uses the phrase “void region” in its own proposed constructions. *See supra* §VI.B. If Bambu truly believed that “void region” is unclear and fails to inform a POSITA about the scope of the invention with reasonable certainty, it would not—and could not—invoke the very same phrase in a construction it contends clarifies the claims. Indefiniteness cannot be a fallback position when a party finds a term inconvenient in one context but fully serviceable in another.

having dimensions that are smaller than the first road width resolution along at least one axis”). Given this context, a POSITA would readily understand the term “void region.” *See Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1299 (Fed. Cir. 2003) (“[T]he context of the surrounding words of the claim [] must be considered in determining the ordinary and customary meaning of [the disputed] terms.”).

Second, the specification provides numerous examples and significant discussion related to the “void regions.” For example, “[i]f void region 20 is left unfilled, the resulting 3D object will contain a corresponding cavity disposed between the deposited roads of build material.” Ex. A6 at 3:41-43. As another example, Figure 13 of the ’357 Patent “shows void regions [412] at intersections between perimeter paths and raster paths.” *Id.* at 2:55-58 (describing void regions 412). With respect to Figure 13, the specification describes that void regions 412 appear “between theoretical roads 402 and 404 at corners 410.” *Id.* at 18:1-6. Based on the intrinsic record, a POSITA would readily understand the term “void region.”

Notably, both experts agree that “voids” were well known in the art. Indeed, Bambu’s expert (Dr. Ganter) admits that “[t]he term ‘void’ is used within the 3D printing space in a way that is consistent with its standard usage.” Ex. Z, ¶ 28 (“a POSITA would understand that a void in a 3D print build as an empty space with no fill...”). Bambu’s expert seems to only be confused by the use of “region” in the claims. *Id.* (“[W]hen coupled with ‘region’ in the term ‘void region,’ the result is a term that was not known to have any specific meaning without context.”). But at his deposition, Dr. Ganter walked back his opinions on what is (and is not) a “void region,” removing the uncertainties he previously expressed. Ex. V (Ganter Dep.) at 160:6-161:5 (Dr. Ganter admitting that area outside of the print boundary is not a “void region”); *id.* at 182:23-183:2 (Dr. Ganter admitting that area filled with bulk raster is not a “void region”). Following these

admissions, Dr. Ganter was able to identify a “reasonable” interpretation for “void region”:

Q. So isn’t it possible that void regions could mean empty spaces inside or within the 3D object?

[Objection]

A. I’d say that’s reasonable.

Ex. V (Ganter Dep.) at 225:13-17. Having conceded that a reasonable interpretation exists, Dr. Ganter leaves Bambu with no indefiniteness argument to stand on.

Moreover, the intrinsic record reveals that a POSITA would know what “void region” means. A patent referenced in the specification of the ’357 Patent uses the term “void region,” showing that the term is readily understood by a POSITA. *See* Ex. Y at 8:28-30; Ex. A6 at 18:61-63 (citing same). Likewise, the Examiner during prosecution was able to readily understand and apply the term. *See, e.g.*, Ex. X at 118 (“Jamalabad discloses ... generating a build path for building a layer ... wherein the build path defines a void region (Fig. 6; Col. 5, lines 55-58; Col. 13, lines 43-67)”). In short, the intrinsic record, and Bambu’s own expert confirm this term is not indefinite.

D. “intermediate path” (cls. 1-3, 6, 10, 11, 16, 17)

<u>Stratasys</u>	<u>Bambu</u>
Plain and ordinary meaning	a temporary path used to generate the build path but not used to deposit build material

Bambu needlessly redefines the term “intermediate path” to introduce unwarranted limitations into the claims, including by injecting a negative limitation found nowhere in the record and inserting language that conflicts with the surrounding claim terms. Bambu’s attempt to rewrite the claim should be rejected. *See K-2 Corp. v. Salomon SA*, 191 F.3d 1356, 1364 (Fed. Cir. 1999) (“Courts do not rewrite claims; instead, we give effect to the terms chosen by the patentee.”).

The ’357 Patent never states that the intermediate path is “temporary” or “not used to deposit build material.” Indeed, these phrases appear *nowhere* in the intrinsic record. Bambu’s construction is a plain attempt to inject “a novel negative limitation” that “finds no anchor in the

explicit claim language,” which, without “any express disclaimer or independent lexicography in the written description,” is improper. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1322–23 (Fed. Cir. 2003); *see also id.* at 1333 (“[B]ecause there is no support in the intrinsic evidence for the district court’s departure from the claims’ ordinary meaning, we cannot sustain its claim construction [adding a negative limitation].”). Furthermore, dependent claim 7 shows that the patentee knew how to claim “depositing” material (or not). *See* Ex. A6, cl. 7 (“depositing first deposition roads ..., depositing the second deposition road”). The fact that the patentee included “depositing” in claim 7, but did not use it in relation to the “intermediate path” term, counsels against reading it into the claims as Bambu proposes.

Bambu’s proposed construction is additionally flawed because it rewrites the claim and collapses distinct steps. The claim first requires “generating a build path” and then separately “generating at least one intermediate path in the void region.” Ex. A6, cl. 1. Treating the intermediate path as merely “a temporary path used to generate the build path” erases that distinction. Bambu is either adding an unclaimed extra step of creating another build path or making both limitations mean the same thing. The claim language makes clear the build path already exists; the intermediate path is generated *separately*, not as a precursor to it. Nothing in the specification justifies conflating the two. Bambu’s proposed construction disregards the existing claim language and the specification, and it should be rejected.

E. “road width resolution” (cls. 2, 8, 9, 10, 15)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

The term “road width resolution” is readily understandable based on the intrinsic record. While Bambu concedes “road width” is clear, it appears to argue that the addition of “resolution” introduces uncertainty. The patent itself proves otherwise. The ’357 Patent explains that “road

width resolution” corresponds to the road width and governs how finely the 3D printer prints:

Based on these constant road widths, the host computer may generate the build path for depositing roads of build material based on a **“road width resolution” that corresponds to the constant road widths.** While **relying on the given road width resolution,** the host computer may properly **offset each path so that the roads of build material are deposited adjacent each other without overlapping.**

Ex. A6 at 1:50-57 (emphasis added). The specification further describes that the “road width resolution is desirably held constant to allow the road heights of the deposited roads to be constant, thereby providing a substantially uniform layer thickness.” *Id.* at 3:17-24. The specification also describes the differences between different road width resolutions:

Terms such as “higher road width resolution” and “a road width resolution that is higher” herein refer to a road width resolution that is finer and more detailed compared to another road width resolution. The higher road width resolution allows the host computer to generate raster paths in void regions that are smaller than the first road width resolution.

Id. at 5:47-58; *see also id.* at 7:22-24 and 17:60–18:47.

In short, “road width resolution” describes the fineness or sharpness with which the printer can print each deposited road—akin to how “resolution” describes image clarity in other printing technologies. As Dr. Gall explains, “road width resolution” is a term “a POSITA would have readily understood” as it “is a combination of words that had well-known meanings to a POSITA.” Ex. K ¶ 42. As Dr. Gall explains: “Resolution was a well known term for a POSITA at the time of the patents and is still used today to refer to the fineness of the road (or line) for 3D FDM printers and prints.” *Id.*, ¶ 49 (further explaining that “[p]rinters with higher road width resolution often print with smaller nozzles resulting in finer more closely packed print polymer print lines”). This understanding is fully consistent with the ordinary dictionary meaning of “resolution” as “a measure of the sharpness of an image or of the fineness with which a device ... can produce or record.” *See, e.g.,* Ex. J (Merriam-Webster) at 1061. The intrinsic and extrinsic evidence converge:

“road width resolution” simply measures the precision or sharpness of the printed road—a concept readily understood by a POSITA.

VII. DISPUTED TERMS OF U.S. PATENT NO. 9,592,660

A. Background for the ’660 Patent

The ’660 Patent is directed at an improved 3D printing method with high-temperature thermoplastics by providing a heated build platform that solves the adhesion, warping, and part-removal problems found in prior art. Earlier systems used polyimide tape or plastic plates that trapped air bubbles, burned, warped under heat, or tore when removing parts, leading to uneven prints and wasted materials. The claimed invention overcomes these issues through a thermally conductive removable plate coated with a durable, high-temperature polymer layer that maintains uniform adhesion during printing and allows printed objects to release cleanly once cooled. The plate’s low thermal expansion keeps the surface flat while its flexibility and coating toughness prevent damage to either the part or the build surface. Together, these features produce more reliable prints, faster turnover between builds, and continuous printer operation.

B. “a thermally conductive plate disposed adjacent to the build platform” (cl. 1)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

Bambu argues that the disputed term is indefinite because “thermally conductive” has no objective boundary. But Bambu cannot meet its burden to prove indefiniteness by clear and convincing evidence. The plain and ordinary meaning of the disputed term would have been evident to a POSITA for several reasons.

First, the claims themselves are clear. A POSITA would readily understand “thermally conductive plate” to refer to a plate that transfers heat and spreads heat across its surface when used with the heated build platform of a 3D printer. Ex. K ¶¶61-63. The plate’s polymer coating

facilitates adhesion to the 3D object being printed. The polymer coating also permits removal of the object once formed and cooled. Claim 1 specifies that the plate is used in 3D printing, and that the heat source is the heated build platform. Ex. A7 at 6:32-34, 6:35-36. The plate is “disposed adjacent to the build platform,” which a POSITA would have understood to include a plate secured over a heated build platform. *Id.* at 2:16-18; Ex. K ¶63. The dependent claims provide additional context for the operating temperature range (cl. 6), the plate’s thickness (cl. 9), and materials for the plate (cl. 7). Ex. A7, 6:60-67, 7:5-8. Thus, the disputed term is not a “purely subjective” phrase that would not inform a POSITA about claim scope with reasonable certainty. *See Sonix*, 844 F.3d at 1378 (only “purely subjective” terms would risk being found indefinite).

Second, the specification provides objective boundaries, including exemplary designs, exemplary plates that are “heated up due to the heat generated at the build platform [] because of the temperature control.” Ex. A7 at 3:57-60. By heating the plate, the printer controls the temperature of the 3D object’s first layer on top of the plate and the fusion of subsequent layers over the first layer. *Id.* at 1:28-30. The plate withstands temperatures up to 300°C and dissociates from the 3D object upon cooling. *Id.* at 3:66-4:10. The specification also provides examples of materials for the plate, including a metal surface, aluminum, steel, brass, ceramic, glass, or alloys with similar low coefficients of thermal expansion. *See id.* at 1:49-53, 3:63-66, 5:43-46.

Bambu and its expert, Dr. Hickner, argue “thermally conductive” is broad and the specification does not provide a “defined dividing line as to what qualifies a material as thermally conductive.” *See* Ex. H ¶31. But requiring a “defined dividing line” is seeking absolute certainty that is not required. *Niazi Licensing*, 30 F.4th at 1347 (“mathematical precision” is not required). Dr. Hickner also contends that “thermally conductive” is indefinite due to its breadth because “all materials possess thermal conductivity....” *See* Ex. H ¶¶30. But, again, “a claim is not indefinite

just because it is broad.” *Niazi Licensing*, 30 F.4th at 1347 (collecting cases).

Bambu’s position is contradicted by Bambu itself and Dr. Hickner in a parallel IPR proceeding, as well as by the prosecution history. Contrary to Dr. Hickner’s conclusion that “thermally conductive” has no plain meaning here, he admitted in a parallel IPR proceeding that the terms of the ’660 Patent—including specifically the term “thermally conductive”—should receive their plain meaning. Ex. D at 48:20-49:6 (admitting the use of an “ordinary and customary meaning” for claim interpretation), 51:8-18 (same). Indeed, in his deposition in the parallel proceeding, Dr. Hickner testified under oath that “a POSITA would have understood in plain language the term ‘thermally conductive.’” 44:18-45:1.⁶ Having admitted the plain meaning of the term, Dr. Hickner’s sudden reversal is nothing short of implausible.

The prosecution history also shows a POSITA would have readily understood the term. In particular, the Examiner readily understood the term, admitting that one reference (Pax) did not disclose a “thermally conductive plate” while asserting another reference (Zenere) as allegedly disclosing an aluminum plate. *See* Ex. G (Nov. 30, 2015 Office Action at pp. 5-6) at 54-55. Similarly, the Examiner asserted that another reference (Comb) allegedly discloses a “thermally conductive plate” because it describes a metallic base sheet made of steel. *See id.* (July 14, 2016 Office Action at p.6) at 96. In short, the intrinsic record and even Bambu’s expert’s admissions confirm that “thermally conductive” has a plain meaning a POSITA would readily understand.

⁶ This stands in stark contrast to Dr. Hickner’s testimony in this proceeding where he was asked the *same question* using the *exact same words* and testified inconsistently. *Compare* Ex. D at 44:18-45:1 (Dr. Hickner testifying that “a **POSITA would have understood** in plain language the term ‘thermally conductive.’”) *with* Ex. U (Hickner Dep.) at 131:21-132:4 (“Q. **A person of ordinary skill in the art would have understood** in plain language the term ‘thermally conductive,’ correct? ... A. **I don’t agree with that.**”).

C. “without chemically or mechanically removing the polymer coating from the 3D object” (cl. 1)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

Bambu contends that “without chemically or mechanically removing the polymer coating from the 3D object” is indefinite. Again, the claims themselves provide an “objective baseline” for interpretation. *Sonix*, 844 F.3d at 1378. Claim 1 recites “a polymer coating attached to a surface of the thermally conductive plate which is capable of” two things: 1) “facilitating adhesion to the 3D object during printing” and 2) “permitting removal of the 3D object once the 3D object has been formed and cooled.” Thus, the polymer coating must not be removed chemically or mechanically from the 3D object because the coating must be capable of facilitating adhesion to the 3D object during printing but yet permit removal once the 3D object has formed and cooled.

Similarly, the specification of the patent explains that, after the 3D object has formed and cooled, chemical or mechanical removal *could* have been used, such as when the object is “difficult to remove.” *See* Ex. A7 at 1:65-2:2; 1:56-64 (layer of coating may “permanently adhere to the 3D part” causing tearing and bubbles). It also provides examples of chemical or mechanical removal. The object may need to be “dug out” for removal or a support raft may need to be “dissolved” in a chemical process. *See id.* at 5:20-25. Further, “a blade or wedge” may be needed to separate the part and coated plate. *See id.* at 6:23-25. In contrast, the specification provides examples of non-chemical and non-mechanical removal. The object will pop off the plate when there is a significant difference in thermal contraction between the plate and 3D object. *See id.* at 5:15-20. Further, the coated plate is flexible and thus avoids using a blade or wedge. *See id.* at 5:6-12, 4:3-7, 6:23-25.

Given the specification’s guidance, the Examiner readily understood the term’s meaning and stated in his allowance that claim 1 “solves critical issues in the current art” such as the “need

of chemical/mechanical means to remove [the] 3D object.” Ex. G at 153 (citing Ex. L ¶28 (disclosing examples of non-chemical, non-mechanical removal)). As with “thermally conductive,” Bambu takes an inconsistent position with those taken in an IPR proceeding, where it argued that the term should receive its plain meaning. *See* Ex. D at 51:8-18, 66:4-67:20 (stating that POSITA would find the prior art to teach object removal without mechanical or chemical contact). Bambu argued there that a substrate that allows the part to pop off or delaminate satisfies the disputed claim term, yet here they argue the term is indefinite. *See, e.g.*, Ex. E at p. 24 (“Just like the ’660 patent’s preferred embodiment, Cable teaches that using a flexible polymer-coated substrate allows the part to simply ‘pop off.’”) (citing Ex. F ¶¶91-92); *see also* Ex. E, at p. 66 (citing Ex. F ¶201). Even at his deposition *in this case*, Bambu’s expert (Dr. Hickner) testified that this term “can be understood from the language given in the claim.” Ex. U (Hickner Dep.) at 74:11-20. Having once conceded that “without chemically or mechanically removing” has a plain meaning, Bambu cannot now feign confusion where none exists.

D. “without damaging the polymer coating” (cl. 1)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

The parties dispute whether the term “without damaging the polymer coating” is indefinite. It is not. The phrase would have been readily understood to mean removing the printed object without impairing the polymer coating’s function. Claim 1 recites “a polymer coating attached to a surface of the thermally conductive plate which is capable of” both (i) “facilitating adhesion to the 3D object during printing” and (ii) “permitting removal of the 3D object once the 3D object has been formed and cooled.” It further requires removal “without damaging the polymer coating.” Claim 12 reinforces this by explaining that damage is reduced when the flexible plate allows easier dissociation of the printed object. Thus, “without damaging” simply means that removal does not

destroy the coating’s ability to perform its stated functions.

The specification confirms this understanding. It describes examples of damage, such as air gaps creating an uneven surface, coatings that burn off with heat, coatings that adhere to the 3D part causing tearing or bubbles, and coatings that easily scratch or puncture. *See* Ex. A7 at 1:49-64, 6:7-18. It also identifies examples of avoiding damage—coatings resistant to scratches or punctures, coatings with surface toughness that permit removal, and flexible plates that eliminate the need for blades or wedges. *See id.* at 4:47–60, 5:6–12, 6:11–15 (avoiding replacement unlike known solutions “preferably replaced after every build”).

Bambu again takes inconsistent positions. In the IPR, it argued that the term carries its plain meaning. *See* Ex. D at 51:8-18, 61:3-64:19 (asserting the reference teaches the disputed term) (referencing Ex. F ¶¶88, 91, 92). It also mapped the claims to the prior art, asserting that the polymer coating was undamaged because the coated substrate was reusable. *See* Ex. E, at pp. 24, 63-64 (citing Ex. F ¶¶91-92, 196). Bambu’s own expert (Dr. Hickner) testified *in this case* that this term “can be understood from the language in the claim.” Ex. U (Hickner Dep.) at 74:22-75:3. The intrinsic record and Bambu’s own expert thus confirm that “without damaging the polymer coating” has a clear, plain meaning and is not indefinite.

VIII. DISPUTED TERMS OF U.S. PATENT NO. 11,886,774

A. Background for the ’774 Patent

The ’774 Patent addresses inefficiencies in 3D printing caused by the mismatch between a printer’s configuration and the digital models it receives. Prior art systems lacked a way for services or applications generating machine-ready models to account for differences in printer hardware, software, or user settings, leading to failed prints and wasted material. The invention solves this problem by enabling a printer to communicate its configuration information—such as hardware specifications, firmware version, or material capabilities—to a server or client device.

The system then uses this information to select, adapt, or generate a machine-ready model specifically suited to that printer. By automatically matching models to printer capabilities, the invention ensures compatibility, reduces printing errors, and improves fabrication efficiency.

B. “properties from the target printer that affect the fabrication capabilities of the target printer” (cl. 1)

<u>Stratasys</u>	<u>Bambu</u>
Not indefinite; plain and ordinary meaning	Indefinite

Bambu asserts that the disputed term of the ’774 Patent is indefinite because it is allegedly overbroad. *See* Ex. M ¶29. But the term uses plain English words to describe 3D printer properties that affect fabrication, which a POSITA would readily understand. Indeed, Bambu’s expert, Dr. Hickner, admitted that the individual words—“properties,” “target printer,” “affect,” “fabricate,” and “fabrication capabilities”—have plain meanings that are readily understood. *See* Ex. U (Hickner Dep.) at 245:20-246:2, 248:7-13, 230:3-8, 225:20-226:16, 230:22-231:20.

Dr. Hickner nevertheless argues the term is indefinite because it is broad and a POSITA “would not know the bounds of the subset consisting of ‘properties from the target printer that affect fabrication capabilities.’” Ex. M ¶29. But “breadth is not indefiniteness.” *BASF Corp. v. Johnson Matthey Inc.*, 875 F.3d 1360, 1367 (Fed. Cir. 2017). Claim 1 explains that these properties are used to create a fabrication profile. Ex. A8 at 35:22–32. Dependent claims confirm this understanding, identifying examples of properties such as hardware configuration (cl. 4), firmware configuration (cl. 8), user settings (cl. 9), applications used (cl. 11), and build materials (cl. 12).

Similarly, the specification provides guidance and examples describing how printer capabilities relate to fabrication. *See* Ex. A8 at 17:39-53. It lists numerous properties affecting fabrication—hardware, software, user settings, firmware, color, size, speed, resolution, accuracy, and build materials. *See id.* at 19:15-25, 20:55-62. These disclosures, as Dr. Gall explains, make

clear which properties affect fabrication capabilities. Ex. K. ¶¶69-74.

Indeed, Bambu’s expert identified numerous examples in his deposition—such as printer type, nozzle diameter, gantry type, operating temperature ranges, and filament properties—all of which he admitted affect fabrication capabilities. *See* Ex. U (Hickner Dep.) at 266:6-15, 273:8-284:3. Unable to identify any property that would confuse a POSITA, his only criticism was that the patent lacks an “exhaustive list”—an argument the Federal Circuit has rejected. *BASF v. Johnson Matthey Inc.*, 875 F.3d 1360, 1364 (Fed. Cir. 2017) (reversing indefiniteness where defendant argued examples “in the specification are not an ‘exhaustive list’”).

Most glaringly, Bambu and Dr. Hickner recently took the opposite position. In a recent IPR, Dr. Hickner swore he understood the term’s plain meaning and identified properties in prior art that “affect fabrication capabilities.” He stated that a reference (Douglas) disclosed “build material type” that “affect fabrication capabilities,” and that a printer’s “accuracy and material capabilities” were “properties ... that affect fabrication capabilities” (in Hamilton). Ex. N ¶¶52-53, 120-121; *see also id.* ¶13 (applying “ordinary and customary meaning”). Having relied on plain meaning under oath, Dr. Hickner’s reversal now defies credibility.

Similarly, the PTO Examiner understood the scope of the claim term during prosecution. In allowing the patent, the Examiner stated the prior art did not teach the concept of “receiving, from the target printer, a dictionary of configuration information containing one or more *properties from the target printer that affect fabrication capabilities of the target printer.*” Ex. O at 179-180. Thus, the intrinsic record demonstrates the meaning of “properties from the target printer that affect fabrication capabilities” was well understood. Given Dr. Hickner and the Examiner readily understood the plain meaning of the term and compare it to the prior art, Bambu cannot satisfy its burden to show that the claim term is indefinite by clear and convincing evidence.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing document was electronically filed with the Clerk of Court using the CM/ECF filing system, which will generate and send an e-mail notification of said filing to all counsel of record, on this the 8th day of October, 2025.

/s/ Kevin J. Meek

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