IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

SZ DJI TECHNOLOGY CO., LTD. and DJI EUROPE B.V., Plaintiffs, v. AUTEL ROBOTICS USA LLC and AUTEL AERIAL TECHNOLOGY CO., LTD., Defendants-Counterclaim Plaintiffs, v. DJI TECHNOLOGY INC., SZ DJI TECHNOLOGY CO., LTD., and DJI EUROPE B.V., Counterclaim Defendants.	C.A. No. 16-706-LPS (Consolidated)

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MEMORANDUM OPINION

May 12, 2021
Wilmington, Delaware

STARK, U.S. District Judge:

Plaintiffs SZ DJI Technology Co., Ltd. and DJI Europe B.V. (together, "DJI" or "Plaintiffs") sued Defendants Autel Robotics USA LLC and Autel Aerial Technology Co., Ltd. (n/k/a Autel Robotics Co., Ltd.) (together, "Autel" or "Defendants") on August, 11, 2016, alleging infringement of (as relevant here) U.S. Patent Nos. 9,016,617 ("the '617 patent"), 9,284,049 ("the '049 patent"), and 9,321,530 ("the '530 patent"). (D.I. 1)[1] Those three patents generally relate to technology involving unmanned aerial vehicles ("UAVs"), more commonly known as "drones."

In April 2020, the Court conducted a hearing on various motions, including motions for partial summary judgment related to Autel's alleged infringement of DJI's patents. (*See* D.I. 515, 516, 517) After the Court ruled on those motions, the parties submitted a joint status report, in which they identified remaining disputes over certain claim terms in the '617, '049, and '530 patents. (D.I. 519) The Court ordered supplemental claim construction briefing regarding the remaining disputes. (D.I. 521)

The parties filed a joint supplemental claim construction brief on June 26, 2020. (D.I. 528) They simultaneously filed a variety of exhibits, including expert declarations in support of their proposed constructions. (D.I. 528-4 (Dr. Janét for Plaintiffs); D.I. 528-7 (Dr. Barrett for Defendants)) The Court has considered all those materials and has determined that it is appropriate to resolve the remaining claim construction disputes without a hearing.

[1] Plaintiffs also named Autel Intelligent Technology Co., Ltd. as a defendant, but that entity is no longer involved in this case. (*See* D.I. 95) In the answer to Plaintiffs' complaint, Defendants asserted counterclaims against Plaintiffs and DJI Technology Inc., involving other patents that are not relevant for present purposes. (*See* D.I. 278 ¶¶ 52, 58)

I. LEGAL STANDARDS

The Court incorporates by reference the legal standards outlined in its initial claim construction order in this case. *See SZ DJI Tech. Co. v. Autel Robotics USA LLC*, 2019 WL 6840357, at *1-2 (D. Del. Dec. 16, 2019) (D.I. 415 at 1-4).

II. CONSTRUCTION OF DISPUTED TERMS

A. "flight control module"[2]

Plaintiffs "a component for estimating, planning, and adjusting the flight [of the UAV] based on data obtained from other components"
Defendants "a system for estimating, planning, and adjusting the flight [of the UAV]"
Court "one or more components for estimating, planning, and adjusting the flight [of the UAV]"

The parties agree that the term "flight control module" needs to be construed. (D.I. 519 at 1-2) As their proposed constructions indicate, the parties also agree that the flight control module is used for estimating, planning, and adjusting the flight of the UAV. The parties disagree, however, on two issues: (i) whether the flight control module is a component or a system, and (ii) whether the flight control module must perform its function based on data obtained from other components.

First, the Court concludes that the flight control module is more fairly characterized as one or more components, not as a system. The Court begins with the claim language. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) ("[T]he claims themselves provide substantial guidance as to the meaning of particular claim terms.").

[2] This term appears in claim 1 of the '617 patent, claims 1 and 16 of the '049 patent, and claims 1 and 16 of the '530 patent. (D.I. 528 at 2)

According to the claims, the flight control module is one of multiple possible electrical components. ('617 patent at 20:40-42 ("one or more electrical components selected from the group including a . . . flight control module"), '049 patent at 20:40-43 ("one or more electrical components . . . comprising at least a flight control module"), 21:47-49 (same), '530 patent at 20:40-41 ("one or more electrical components selected from a group comprising a . . . flight control module"), 21:27-29 (same)) The Court cannot find any language in the claims supporting Autel's characterization of the flight control module as a system.

Autel points instead to the specification, which states that "[t]he flight control module 33 is ***typically*** a key component or 'brain' of an UAV." ('617 patent at 10:24-25) (emphasis added)[3] According to Autel, this statement means that the flight control module is typically, but not necessarily always, a component – and, thus, in the claims the flight control module may be a system. (D.I. 258 at 5-6) The Court disagrees. The more natural reading of that language is that "typically" modifies "key," not "component." In other words, the flight control module is a component of the UAV, and it is usually a "key" component.

DJI concedes that the flight control module may comprise more than one component. (D.I. 528 at 7) (citing *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1355 (Fed. Cir. 2000)) Accordingly, the Court will construe the flight control module as "one or more components" rather than as a system.

Second, the Court rejects DJI's suggestion that the flight control module must perform its function "based on data obtained from other components." It is correct, as DJI notes (D.I. 528 at 3), that the specification states that "the flight control module 33 can be configured to estimate

[3] Because the '617, '049, and '530 patents have essentially the same specification, for simplicity the Court cites only the '617 patent's specification.

the current velocity, orientation and/or position of the UAV based on data obtained from visual sensors (e.g., cameras), [inertial measurement unit], GPS receiver and/or other sensors." ('617 patent at 10:25-29) The specification further provides "another example" in which "the flight control module can be configured to issue control signals . . . based on remotely received control signals." (*Id.* at 10:31-33) DJI does not, however, offer any persuasive reason why the Court should treat those embodiments as limiting. Although the flight control module ***can*** perform its function based on data obtained from other components, there is no requirement that the flight control module ***must*** perform its function in that way.

B. "a magnetometer secured onto an extension member"[4] / "a magnetometer attached onto a landing stand"[5]

Plaintiffs "a magnetometer is located on an extension member" / "a magnetometer is located on a landing stand"
Defendants Plain and ordinary meaning; alternatively, "a magnetometer secured on an extension member" / plain and ordinary meaning; alternatively, "a magnetometer attached on a landing stand"
Court "a magnetometer secured on an extension member" / "a magnetometer attached on a landing stand"

The parties' dispute over these two terms focuses on the word "onto." DJI attempts to replace the phrases "secured onto" and "attached onto" with the phrase "is located on." This attempt to broaden the claims is not supported by the intrinsic evidence, and the Court rejects it.

DJI identifies multiple embodiments in the specification that use the phrase "is located on." (D.I. 528 at 12-13) (citing '617 patent at 13:21-23 ("the sensor is located on an extension

[4] This term appears in claim 1 of the '617 patent. (D.I. 528 at 11-12)

[5] This term appears in claims 1 and 16 of the '530 patent. (D.I. 528 at 12)

member"), 14:55-58 ("[t]he interference-susceptible sensor may be located on the first stand"), 14:67-15:2 ("the sensor 7 may be located on a different portion of the first stand"), 16:7-8 ("the sensors may be located on one or more extension members"), 19:24-29 ("the magnetometer is located on the extension member")) DJI's cited embodiments undermine its own construction. When the applicant wanted to speak about the location of the magnetometer, the applicant chose to use "secured onto" or "attached onto" in the claims, despite clearly knowing the alternative term "located on." That word choice is significant.

In DJI's view, the patents are focused on "***where*** the magnetometer is located," not "***how*** the magnetometer is attached or secured to the UAV." (*Id.* at 13) DJI is wrong. In fact, as DJI also observes, the specification describes how the magnetometer may be attached or secured to the UAV. (*See id.* at 14) (citing '617 patent at 15:27-32 ("The sensor 506 may be coupled (removably or permanently) to the extension member 504 via a fastener, glue, welding or any other suitable methods."))

Autel argues that the terms do not need construction because they are easily understood. (*See id.*) (citing *St. Clair Intell. Prop. Consultants, Inc. v. Acer, Inc.*, 2012 WL 3536454, at *5 (D. Del. Aug. 7, 2012)) DJI's accusation that Autel seeks to "improperly narrow the scope of the meaning of the terms" is incorrect. (*See id.*) Instead, it is DJI that wishes to improperly broaden the claims.

Autel's alternative proposal – to replace "onto" with "on" – is a simple way to convey the ordinary and customary meaning the claim term would have to a person of ordinary skill in the art ("POSA"). Accordingly, the Court will adopt that proposal.

C. "central body"[6] / "one or more branch housing members"[7]

Plaintiffs
The [central] body and one or more branch housing members are coupled together, including by being integrally joined into one piece during manufacturing
Defendants
"fuselage"
Court
No construction necessary / Except where the claim otherwise makes clear, the body or central body and one or more branch housing members may form one piece

The parties have two disputes regarding the term "central body": (i) whether "central body" should be construed to mean "fuselage" and (ii) whether the body or central body and the branch housing members may form one piece. (*See* D.I. 528 at 20)

First, the Court declines to construe "central body" to mean "fuselage." Autel has not – and cannot – point to a single instance of the term "fuselage" anywhere in the '617, '049, and '530 patents. The specification is "always highly relevant to the claim construction analysis" and is typically "the single best guide to the meaning of a disputed term." *Phillips*, 415 F.3d at 1315 (internal quotation marks omitted). Autel has not offered any other meaningful support in the specification for its construction. (*See* D.I. 528 at 26-27) The term "central body" is simple and easily understood; it does not need to be construed.

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[6] This term appears in claim 1 of the '617 patent and claims 1 and 16 of the '049 patent. (D.I. 528 at 20)

[7] The parties dispute the relationship between the body or central body and the one or more branch housing members with respect to claim 11 of the '617 patent, claims 1 and 16 of the '049 patent, and claims 9 and 11 of the '530 patent. (D.I. 258 at 20, 24)

Second, the Court considers the relationship between the body or central body[8] and the branch housing members. Although this dispute is not tied to one specific claim term, it is a dispute over the scope of the claims that the Court should resolve. *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360-63 (Fed. Cir. 2008).

As DJI explains, there is no categorical requirement across all claims of the '617, '049, and '530 patents that the body or central body and the branch housing members must always be separate or separable from each other. For example, dependent claim 11 of the '530 patent specifically claims a drone in which "the body is integrally formed with the one or more branch housing members." In this claim, therefore, the body and branch housing members may ***not*** be separable but must instead form one piece. *See generally In re Rambus Inc.*, 694 F.3d 42, 48 (Fed. Cir. 2012) (relying on claim differentiation to construe same term in related patents). Figure 1 also shows an embodiment in which the body and branch housing members form a single piece.

The specification provides further support for the crux of DJI's position. In some embodiments, "the branch housing members 12 can be removably coupled to the central housing member 11." ('617 patent at 7:51-52) The logical implication of this language is that some embodiments do ***not*** require removable coupling of the branch housing and central housing members. In such embodiments, the body and branch housing members may form a single piece. (*See also id.* at 8:36-42) (contemplating upper and lower body portions each being "integrally manufactured as one piece")

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[8] The Court rejects Autel's argument that DJI improperly conflates the terms "body" and "central body." (*See* D.I. 528 at 24) The Court understands DJI's convention of using "[central] body" as shorthand, indicating that the terms differ but that DJI's arguments with respect to the terms are the same.

Nevertheless, the Court does not fully embrace DJI's interpretation of the relationship between the body or central body and the branch housing members. DJI's proposed construction implies that the body or central body and the branch housing members must ***always*** be "coupled together." The Court will not read the claims as imposing a "coupled together" requirement, as such a requirement is not supported by the intrinsic evidence. For example, claim 1 of the '049 patent requires that the integral upper body portion and the integral lower body portion be "removably coupled." Hence, that particular claim permits an arrangement that is different from "coupled together."

In sum, based on the intrinsic evidence, a POSA would understand that the claimed embodiments of the '617, '049, and '530 patents contain a body or a central body and branch housing members that may form a single piece, including by being formed as a single piece during manufacturing. But in certain claims, specific claim language otherwise makes clear to a POSA that the claims do ***not*** cover a body or a central body that forms a single piece with the branch housing members. The Court's construction of the baseline relationship between the body or central body and the branch housing members does not erase any additional limitations imposed by individual claims.

III. CONCLUSION

The Court will construe the disputed terms as explained above. An appropriate Order follows.

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ORDER

At Wilmington this **12th** day of **May, 2021**:

For the reasons set forth in the Memorandum Opinion issued this date,

IT IS HEREBY ORDERED that the following claim terms of U.S. Patent Nos. 9,016,617 ("the '617 patent"), 9,284,049 ("the '049 patent"), and 9,321,530 ("the '530 patent") are construed as follows:

Claim Term	Court's Construction
"flight control module" [claim 1 of the '617 patent; claims 1 and 16 of the '049 patent; claims 1 and 16 of the '530 patent]	"one or more components for estimating, planning, and adjusting the flight [of the UAV]"
"a magnetometer secured onto an extension member" [claim 1 of the '617 patent]	"a magnetomer secured on an extension member"
"a magnetometer attached onto a landing stand" [claims 1 and 16 of the '530 patent]	"a magnetomer attached on a landing stand"
"central body" [claim 1 of the '617 patent; claims 1 and 16 of the '049 patent]	No construction necessary
"[central] body" / "one or more branch housing members" [claim 11 of the '617 patent; claims 1 and 16 of the '049 patent; claims 9 and 11 of the '530 patent]	Except where the claim otherwise makes clear, the body or central body and one or more branch housing members may form one piece

UNITED STATES DISTRICT JUDGE