

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

CYWEE GROUP LTD.,	§	
	§	
Plaintiff,	§	
	§	
v.	§	No. 2:17-CV-00140-WCB-RSP
	§	
SAMSUNG ELECTRONICS CO., LTD.	§	
and SAMSUNG ELECTRONICS	§	
AMERICA, INC.,	§	
	§	
Defendants.	§	

**CLAIM CONSTRUCTION OPINION AND ORDER**

**I. BACKGROUND**

This lawsuit concerns U.S. Patents 8,441,438 and 8,552,978, each of which teach a “pointing” device that translates its own movement relative to a first reference frame into a movement pattern in a display plane of a second, display reference frame. Because the display plane is chosen to correspond with a particular display device, such as a computer screen, an associated processor generating a display signal to the display device can then “move” an indicator (e.g., a computer icon or cursor) on the display according to the movement pattern. ’438 Patent at (57); ’978 Patent at (57).

This general concept predates the asserted patents. *See, e.g.*, ’438 Patent at 2:38–47 (referencing prior art). The patents, however, specifically purport to solve a prior-art problem of inaccurately calculating the change in angular velocities and accelerations of the

device when subjected to unexpected movements, particularly in a direction parallel to the force of gravity. *See id.* at 2:55–3:5. The patents also criticize the prior art for outputting only a two-dimensional movement pattern. *See id.* at 2:47–55 (“the pointing device of Liberty cannot output deviation angles readily in [a] 3D reference frame but rather a 2D reference frame only and the output of such device having 5-axis motion sensors is a planar pattern in [a] 2D reference frame only”).

To address these shortcomings, the ’438 Patent teaches (1) use of various sensors to measure angular velocities and axial accelerations along three reference axes of the device, and (2) predicting the axial accelerations along three reference axes from the measured angular velocities. The claimed device uses the measured angular velocities, measured axial accelerations, and predicted axial accelerations to calculate a deviation of the yaw, pitch, and roll angles of the device over time. The claimed device then translates that deviation into a movement pattern within the display reference frame. *See generally* ’438 Patent at 7:56–9:5.

The ’978 Patent, which is a continuation-in-part of the ’438 Patent, adds magnetism to the methodology. Specifically, a magnetometer measures magnetism associated with three reference axes of the first reference frame. The ’978 Patent also teaches predicting the magnetism associated with each of the three axes and using both the measured and predicted magnetisms—along with the measured angular velocities, measured axial accelerations, and predicted axial accelerations already contemplated by the ’438 Patent—to

determine deviation of the yaw, pitch, and roll and translate the resultant angles to a movement pattern in a display reference frame. *See generally* '978 Patent at 22:9–23:8; *see also, e.g., id.* fig.8 items 745, 750, fig. 11 items 1160, 1165.

## II. GENERAL LEGAL STANDARDS

### A. Claim Construction

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g., Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff’g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc); *Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007).

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314. But for claim terms with less-apparent meanings, courts consider “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Id.*

## **B. Indefiniteness**

“A patent’s specification must ‘conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as [the] invention.’” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1340 (Fed. Cir. 2015) (quoting 35 U.S.C. § 112 (pre-AIA), ¶ 2). “A patent is indefinite ‘if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention.’” *Id.* (quoting *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014)). “The definiteness requirement must take into account the inherent limitations of language.” *Id.* Thus, “[s]ome

modicum of uncertainty . . . is the ‘price of ensuring the appropriate incentives for innovation.’” *Nautilus, Inc.*, 134 S. Ct. at 2128 (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 732 (2002)). Nonetheless, “a patent must be precise enough to afford clear notice of what is claimed, thereby appris[ing] the public of what is still open to them.” *Id.* at 2129 (internal quotation marks and citations omitted).

Indefiniteness is a question of law that is reviewed de novo. *Teva Pharm. USA, Inc.*, 789 F.3d at 1341. It must be proven by clear and convincing evidence. *Halliburton Energy Servs., Inc. v. M-I, LLC*, 514 F.3d 1244, 1249–50 (Fed. Cir. 2008).

### III. AGREED CONSTRUCTIONS

The parties agree to the following constructions, which the Court hereby adopts. Joint Cl. Constr. & Prehearing Statement [Dkt. # 57] at 1–2.

Claim Term	Agreed Construction
calculating predicted axial accelerations $A_x'$ , $A_y'$ , $A_z'$ based on the measured angular velocities $\omega_x$ , $\omega_y$ , $\omega_z$ of the current state of the six-axis motion sensor module without using any derivatives of the measured angular velocities $\omega_x$ , $\omega_y$ , $\omega_z$ ('438 Patent, cl.14, 19)	plain and ordinary
detecting and generating a first signal set ('438 Patent, cl.1)	plain and ordinary
detecting and generating a second signal set ('438 Patent, cl.1)	plain and ordinary

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