

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

iQAR INC.,
Patent Owner

Case IPR2024-00630
U.S. Patent No. 10,850,616

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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LIST OF EXHIBITS

TESLA-1001	U.S. Pat. No. 10,850,616 (“the ’616 patent”)
TESLA-1002	Excerpts from the File History of the ’616 patent
TESLA-1003	Declaration of Dr. Vassilios Morellas
TESLA-1004	U.S. Pat. No. 8,712,650 (“Koebler650”)
TESLA-1005	U.S. Pat. No. 11,065,977 (“Koebler977”)
TESLA-1006	U.S. Pat. No. 9,682,624 (“Koebler624”)
TESLA-1007	U.S. Pat. No. 8,972,162 (“Koebler162”)
TESLA-1008	U.S. Pat. No. 7,925,426 (“Koebler426”)
TESLA-1009	Complaint, iQar Inc. v. Tesla, Inc., 1:23-cv-00694, W.D. Tex., June 20, 2023
TESLA-1010	U.S. Pat. No. 7,516,011 (“Kabel”)
TESLA-1011	U.S. Pat. No. 7,148,648 (“Okano”)
TESLA-1012	U.S. Pat. No. 7,211,019 (“Kirkwood”)
TESLA-1013	U.S. Pat. No. 7,983,836 (“Breed”)
TESLA-1014	U.S. Pat. No. 7,752,188 (“Lagerstedt”)
TESLA-1015	U.S. Pat. No. 7,650,956 (“Hirata”)
TESLA-1016	U.S. Pat. No. 10,746,901 (“O’Brien”)
TESLA-1017	U.S. Pat. No. 10,703,162 (“Kanda”)
TESLA-1018	U.S. Pat. No. 5,848,378 (“Shelton”)
TESLA-1019	E.P. Pat. No. 3,475,729 (“Elkebetz”)
TESLA-1020	Wimmer A. & Schnessl E., “Effects of Humidity and Ambient Temperature on Engine Performance of Lean Burn Natural Gas

Engines,” Proceedings of ICEF2006, ASME Combustion Engine Division 2006 Fall Technical Conference, Nov. 5-8, 2006, Sacramento, CA (“Wimmer”)

TESLA-1021	U.S. Pat. No. 6,505,123 (“Root”)
TESLA-1022- TESLA-1049	RESERVED
TESLA-1050	Memorandum, Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation (USPTO June 21, 2022) (“Director’s Guidance”)
TESLA-1051	RESERVED
TESLA-1052	District Court Trial Statistics (12-Month Period Ending June 30, 2023 June 30, 2023)
TESLA-1053	Proof of Service of Complaint, iQar Inc. v. Tesla, Inc., 1:23-cv-00694, W.D. Tex., June 22, 2023
TESLA-1054	Supplemental Declaration of Vassilios Morellas
TESLA-1055	Deposition Transcript of David Bevly (February 26, 2025)
TESLA-1056	Excerpts of Merriam Webster’s Collegiate Dictionary, Eleventh Edition (2003)
TESLA-1057	Bayer G. Raymond, <i>Mechanical Wear Fundamentals and Testing</i> , 2 nd Ed., 3 (April 22, 2004)
TESLA-1058	U.S. Pat. App. No. 2002/0041328 (“LeCompte”)
TESLA-1059	U.S. Pat. No. 5,345,606 (“Duckeck”)
TESLA-1060	Certified Translation of Japanese Pat. Pub. No. JP 2003-276472 (“Hongo”)
TESLA-1061	Translation Certification for TESLA-1060
TESLA-1062	Japanese Pat. Pub. No. JP 2003-276472 (“Hongo2”)

I. INTRODUCTION

Patent Owner, iQar, fails to demonstrate that U.S. Patent No. 10,850,616 (the “616 patent”) is entitled to an earlier filing date of its parent, U.S. Pat. No. 8,712,650 (TESLA-1004; “Koebler650”). Koebler650 lacks a sufficient written description under 35 U.S.C. § 112(a) for limitations¹ requiring determination of 22 enumerated current conditions (“Enumerated Current Conditions”) based on analysis of sensor data samples collected by at least one of 13 enumerated sensors (“Enumerated Sensors”). *See* Pet., 10-12. While these limitations “must appear in the specification,” they lack express disclosure and the burden therefore falls on iQar to produce supporting evidence. *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1571-72 (Fed. Cir. 1997); *see* IPR2022-01489, Pap. 25, 18 (PTAB April 11, 2024) (shifting the burden of production to patent owner after a petitioner’s *prima facie* showing of lack priority entitlement).

Without express disclosure, iQar is forced to rely on expert testimony from Dr. Bevly interpreting Koebler650’s disclosure of parameters. This testimony is irrelevant because it largely speaks to conventionality of the Current Condition

¹ These limitations include [1c-1], [1e], [1f], [15e-1], [15f], [15g], [16a], and [16e] (collectively “Current Condition Limitations”).

Limitations. It does not remedy the lack of specificity within the written description. This absence alone confirms that the written description fails to demonstrate possession of the Current Condition Limitations as of Koebler650's filing date. *See* §III, *infra*.

iQar's position violates the central purpose of §112—a *quid pro quo* between inventors and the public, whereby the public receives “meaningful disclosure in exchange for being excluded from practicing the invention for a limited period of time.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 970 (Fed. Cir. 2002). The Current Condition Limitations implicate 22 enumerated current conditions that are determined from at least one of 13 enumerated sensors. *See, e.g.*, TESLA-1004, 7:45-62, 8:12-24, 21:29-62. But because the claims encompass systems that only require determination of one current condition from one sensor, their infringement scope is extensive. *See* Dec., 12 (“...the ‘at least one of . . . and’ recitations are disjunctive...”).² To be afforded an exclusive right to such broad scope, §112(a) demands not only inferences available to a POSITA, but disclosure sufficient to have informed the POSITA of possession of the entire claim scope.

² All emphasis is added unless indicated otherwise.

The POR fails to explain how Koebler650 meets this standard. It instead points to disclosure of various parameters and generic sensor functionality. But this disclosure fails to match the specificity recited in the claims. And, while “[s]ection 112 does not require that the specification contain that which is known to those skilled in the art[,]” it “does require specificity” such that it is “sufficiently clear that persons of skill in the art will recognize that the applicant made the invention having those limitations.” *Martin v. Mayer*, 823 F.2d 500, 505 (Fed. Cir. 1987). Koebler650 fails to provide sufficient “specificity” in at least two ways. First, it fails to explain how or why certain disclosed parameters represent 10 Enumerated Current Conditions, including ***traction***, ***amount of vibration***, and ***moisture***. It also fails to explain how or why processing relating to these disclosed parameters necessarily involves determining these current conditions.

As a simplified example, Koebler650’s written description is akin to a car advertisement that states a vehicle is equipped with advanced sensors to monitor road conditions to enhance safety. However, if the advertisement does not specify specific safety enhancements, a purchaser would not have understood that the advertised vehicle processes a unique system that provides specific types of safety enhancements, such as hazard detection. This remains true even if hazard detection was a sought-after safety feature by vehicle purchasers. While

Koebler650 generically discloses sensor functionality for determining vehicle parameters, it fails to detail specific processing techniques, e.g., those that relate to *traction, amount of vibration, and moisture*. Just as the vague car advertisement does not demonstrate possession of hazard detection, Koebler650's generic descriptions do not establish that its inventors had possession of the specific techniques required to determine the Enumerated Current Conditions in the manner recited in the claims.

Record evidence also fails to support iQar's position. Dr. Bevly's deposition testimony suggests he relied on obviousness in forming the opinions expressed in his declaration. He confirmed that disclosed parameters are not the "same thing" as corresponding current conditions. *See* TESLA-1055, 18:1-15, 21:21-25, 24:13-25:24, 27:7-28:9, 33:11-23, 45:3-17, 48:15-19, 49:15-50:25, 52:4-23, 53:11-54:13, 55:6-56:2. Indeed, according to Dr. Bevly, some of these parameters represent "much broader" information, confirming a lack of inherency. *Id.*, 32:7-13. He also testified that analysis relating to several disclosed parameters do not necessarily involve determining current condition information. *Id.*, 19:22-20:21, 32:14-17, 37:13-20, 42:2-18, 43:18-23, 51:11-18. This is consistent with declaration testimony from Tesla's expert, Dr. Morellas, identifying reasons why a POSITA would not have immediately envisaged how to determine a current

condition using the parameter information described in the Koebler650.

The law is clear that obviousness is the wrong standard for written description because “a description that merely renders the invention obvious **does not** satisfy the requirement.” *Ariad Pharm., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1352 (Fed. Cir. 2010)(citing *Lockwood v. Am. Airlines*, 107 F.3d 1565, 1571-72 (Fed.Cir.1997)); see *Vasudevan Software, Inc. v. MicroStrategy, Inc.*, 782 F.3d 671, 682-83 (Fed. Cir. 2015); *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920 (Fed. Cir. 2004); *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306–07 (Fed. Cir. 2008).

Koebler650 is therefore available as prior art and the Panel should find the Challenged Claims unpatentable.³

II. CLAIM CONSTRUCTION

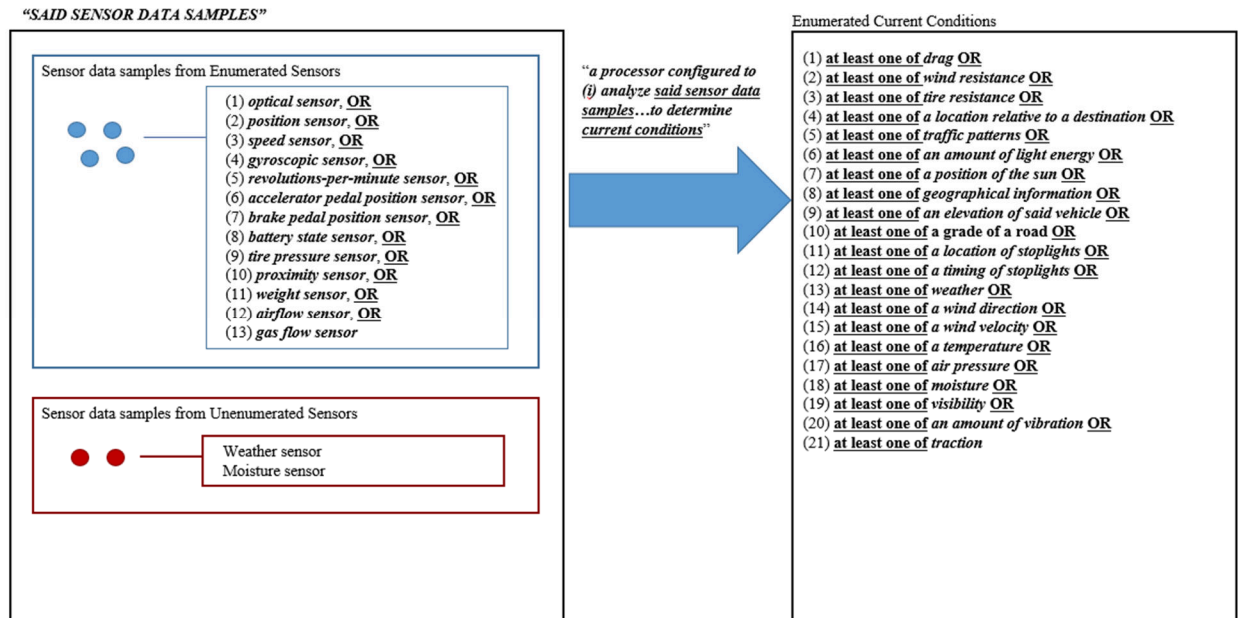
In instituting this proceeding, the Panel agreed with the Petition’s interpretation that “the Enumerated Current Conditions are required to be determined from sensor data samples from the Enumerated Sensors.” Pet., 8; see

³ The POR does not specifically address the Petition’s mapping of Koebler650 to the Challenged Claims in Ground 1. See Pet., 23-56.

Dec., 14. Thus, while preliminary, the Panel already identified the proper interpretation of the Current Condition Limitations.

Despite this, the POR repeatedly characterizes invention scope based on specification disclosure. POR, 13 (“Koebler650 expressly states the invention encompasses **any conditions and sensors**”); *id.*, 14 (“Koebler650 expressly does not limit the invention to such examples...”). This violates a “bedrock principle” that “the claims of a patent define the invention to which the patentee is entitled the right to exclude,” not the specification. *Phillips v. AWH Corp.*, 415 F. 3d 1303, 1309.

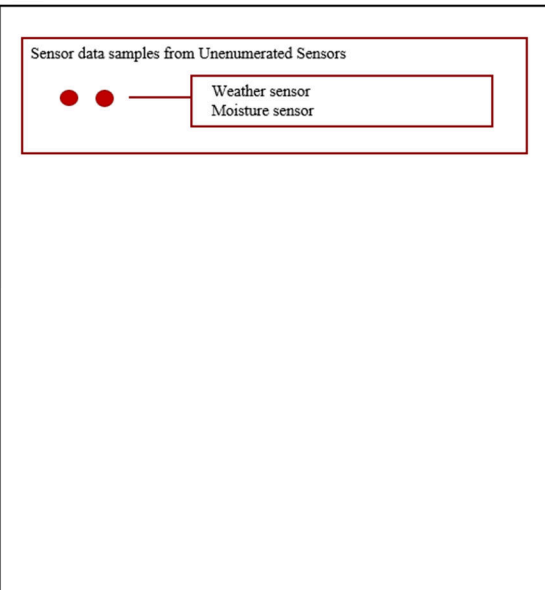
iQar’s interpretation is also too broad. Limitations [1c-1], [15e-1], and [16e] specifically reference **said sensor data samples** in reciting processing relating to determination of ***current conditions***. Through antecedent basis, the Current Condition Limitations require analysis of sensor data samples from ***at least one of*** the Enumerated Sensors. Pet., 4. iQar urges that the Current Condition Limitations may encompass “any conditions and sensors,” but such an interpretation is not limited with respect to sensor data from Enumerated Sensors (e.g., ***position sensor***) and other unenumerated sensors (e.g., weather sensor, moisture sensor) in contrast to what the claims require, which is shown below.



TESLA-1054, ¶17; *see id.*, ¶¶14-16.

iQar's interpretation also encompasses configurations in which *only* sensor data samples from unenumerated sensors are analyzed to determine the Enumerated Current Conditions. *See* POR, 13. As shown below, sensor data samples from these unenumerated sensors cannot represent the *said sensor data samples* recited in [1c-1], [15e-1], and [16e] because their corresponding sensors are not enumerated in [1d], [15f], and [16a].

NOT "SAID SENSOR DATA SAMPLES"



"a processor configured to
(i) analyze said sensor data
samples...to determine
current conditions"



Enumerated Current Conditions

- (1) at least one of drag OR
- (2) at least one of wind resistance OR
- (3) at least one of tire resistance OR
- (4) at least one of a location relative to a destination OR
- (5) at least one of traffic patterns OR
- (6) at least one of an amount of light energy OR
- (7) at least one of a position of the sun OR
- (8) at least one of geographical information OR
- (9) at least one of an elevation of said vehicle OR
- (10) at least one of a grade of a road OR
- (11) at least one of a location of stoplights OR
- (12) at least one of a timing of stoplights OR
- (13) at least one of weather OR
- (14) at least one of a wind direction OR
- (15) at least one of a wind velocity OR
- (16) at least one of a temperature OR
- (17) at least one of air pressure OR
- (18) at least one of moisture OR
- (19) at least one of visibility OR
- (20) at least one of an amount of vibration OR
- (21) at least one of traction

TESLA-1054, ¶18.

III. THE CHALLENGED CLAIMS ARE NOT ENTITLED TO PRIORITY TO KOEBLER650

To gain the benefit of the filing date of an earlier-filed application under 35 U.S.C. § 120, the written description of the earlier-filed application must be sufficient to satisfy the requirements of 35 U.S.C. §112. Pet., 12 (citing *Lockwood*, 107 F.3d, at 1571-72). This requires the written description to sufficiently convey "to a person of skill in the art that the patentee **had possession** of the claimed invention at the time of the application, i.e., that the patentee invented what is claimed." *Id.* (citing *Lizardtech, Inc. v. Earth Res. Mapping Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005)) (emphasis in original).

The POR relies on expert testimony addressing a purported correspondence between the Enumerated Current Conditions and certain disclosed parameters as shown below:

Enumerated Current Condition	Parameter(s) Identified in POR
<i>Traction</i>	“operational status” “tire resistance” “rolling resistance” <i>See</i> POR, 26-29
<i>amount of vibration</i>	“terrain” “condition of a road” <i>See</i> POR, 30-32
<i>Moisture</i>	“weather around the vehicle,” e.g., “rain” <i>See</i> POR, 20-23

Koebler⁶⁵⁰’s disclosure of parameters lacks specificity and therefore does not demonstrate possession over determining the Enumerated Current Conditions. *See* TESLA-1054, ¶¶19-26. iQar’s expert testimony merely supports knowledge regarding the existence of techniques for determining the Enumerated Current

Conditions. This is not a substitute for possession, and conventionality is not in dispute. *See* Pet., 56-78 (Ground 2).

A. Koebler650 Fails To Demonstrate Possession Of Determining Traction

1. *iQar's Definition of "Traction" Departs From Plain Meaning*

The POR narrowly defines "traction" as "a measure of the amount of power that is transferred from the engine to the road, which is a function of the friction between the vehicle's drive wheels and the road surface." POR, 27 (citing Ex-2001, ¶129). This definition departs from plain meaning and iQar fails to justify such departure based on the intrinsic record. Its expert also admitted that the definition is not found within the written description. TESLA-1055, 40:12-41:1. The POR also fails to support the alleged definition with credible evidence, since the expert testimony it cites is uncorroborated and largely repeats the same analysis. *Compare* POR, 27 and Ex-2001, ¶129.

iQar's definition focuses only on power transfer. Dr. Morellas identifies a more appropriate definition, where "traction is 'defined as a physical process in which a tangential force is transmitted across the interface between two bodies through dry friction or an intervening fluid film, resulting in motion, stoppage, or the transmission of power.'" *Id.*, ¶29 (citing TESLA-1057, 5). He also explains why a POSITA would not have understood "traction" to represent only a "measure

of the amount of power” (i.e., a power measurement). *Id.*, ¶¶27-31.

2. *Operational Status, Tire Resistance And Rolling Resistance Are Not The Same Thing As Traction*

Setting aside its uncorroborated definition, iQar also fails to produce evidence sufficiently demonstrating possession of determining **traction** based on Koebler650’s disclosure of “operational status,” “tire resistance,” and “rolling resistance.” *See* POR, 27-29. A POSITA would not have recognized these parameters as the same thing as traction. TESLA-1054, ¶¶32-36. Expert testimony also confirms that these parameters do not necessarily represent traction information. *Id.*; *see* TESLA-1055, 42:2-18, 45:13-22, 47:1-5, 48:20-23, 49:1-10.

As to “operational status,” Koebler650 confirms it represents a generic category of status information. For example, in column 4, lines 1-18, Koebler650 teaches specific examples of status information unrelated to frictional forces, such as battery information (e.g., “battery state, the voltage of the battery”) and other information (e.g., “the amount of air going to the engine, the amount of gas going to engine”). TESLA-1004, 4:1-18. Dr. Bevly also confirmed in deposition that various of these types of status information can be determined without measuring the friction between the vehicle’s drive wheels and the road surface. TESLA-1055, 42:25-43:23.

Koebler650’s disclosure of “tire resistance” and “rolling resistance”

similarly fail to demonstrate possession of determining traction. *See* TESLA-1004, 7:1-4, 7:36-38, 15:51-55. While true that these parameters may represent road-surface interactions, they are not the same thing as traction because “[t]ire resistance measures how much energy is lost due to deformation and road interaction while a tire rolls, while traction measures “the force that allows a tire to grip the road to facilitate motion.” TESLA-1054, ¶33. Dr. Morellas also identifies scenarios in which tire resistance and rolling resistance measurements have no relationship to traction since they each assess different aspects of tire performance. *Id.*, ¶¶35-36. iQar therefore oversimplifies tire-road interaction represented tire resistance and rolling resistance in asserting they each represent traction information.

3. *Processing Of Operational Status, Tire Resistance And Rolling Resistance Does Not Necessarily Involving Determining Traction Information*

iQar also fails to produce evidence sufficiently demonstrating possession of processing techniques relating to **traction** based on Koebler’s disclosure of sensor functionality. The POR focuses on Koebler650’s description of collecting “motor and wheel rotations per minute” using an RPM sensor but fails to identify any description of how such collected data is further processed to determine traction information. *See* POR, 29-30 (citing TESLA-1004, 4:1-18, 8:41-51, 21:29-62).

TESLA-1054, ¶¶37-43.

Specifically, “wheel rotations per minute (RPM)” determined by an RPM sensor, alone, do not demonstrate possession because “[w]heel RPM only provides information about the rotational speed of the wheel” and “does not directly indicate whether the tire is maintaining effective grip with the road.” *Id.*, ¶38. Indeed, determining traction information from wheel RPM requires further analysis, such as “determining the wheel slip ratio, longitudinal and lateral forces, and road surface monitoring.” *Id.*, ¶39. This is confirmed by scenarios where “wheel RPM” and “traction” are decoupled such that measurement of wheel RPM alone provides no information about loss of traction. *Id.*, ¶40.

Measurement of “motor rotations per minute” and “engine RPM” are similarly insufficient to demonstrate possession because “[t]hese measurements pertain to rotational speeds of a vehicle power source, while traction is fundamentally about the interaction between the tires and the road surface.”

TESLA-1054, ¶41. Measurement of “tire pressure” fares no better alone in demonstrating possession because “[t]ire pressure is a static property of the tire that influences its overall performance characteristics[,]” whereas “traction is determined dynamically and involves real-time interaction between the tires and the road surface.” TESLA-1054, ¶42. Finally, in deposition, Dr. Bevly confirmed

that processing techniques identified in the POR for *traction* and discussed above may be conducted without necessarily measuring traction information (e.g., friction between the vehicle's tires and the road). TESLA-1055, 42:2-18, 43:18-23, 51:11-18.

B. Koebler650 Fails To Demonstrate Possession of Determining *An Amount of Vibration*

1. *Terrain and Road Conditions Are Not The Same Thing As An "Amount of Vibration"*

iQar fails to produce evidence sufficiently demonstrating possession of determining *an amount of vibration* based on Koebler's disclosure of "terrain" and "condition of a road." See POR, 31-32 (citing TESLA-1004, 3:41-67, 7:45-62, 13:57). A POSITA would not have recognized these parameters as the same thing as vibration. TESLA-1054, ¶¶44-51. Expert testimony also confirms that these parameters do not necessarily represent vibration information. *Id.*; see TESLA-1055, 24:12-25:2.

As to "terrain," Koebler650 confirms this term represents a generic category of road information. For example, in column 13, lines 52-58, Koebler650 teaches "the gradient or condition of a road" as examples of "terrain" information. TESLA-1004, 13:52-58. This fails to specify any type of vibration information. TESLA-1054, ¶41. Dr. Bevly also admitted that terrain and vibration measurements are "correlated," confirming they are not the same thing. TESLA-

1055, 24:12-25:2. He then testified that examples of “terrain” described in Koebler650 may be measured without determining vibration information. *Id.*, 28:10-29:8, 32:14-17.

Indeed, even “condition of a road” reflects generic information regarding the condition associated with a road. Again, this does not specify vibration information. In deposition, Dr. Bevly agreed that Koebler650 described “traffic” and “weather” as examples of road conditions—two parameters entirely unrelated to vibration information. TESLA-1055, 29:19-31:3; TESLA-1054, ¶48 (citing TESLA-1004, 13:59-14:4). This is further confirmed by testimony from Dr. Morellas explaining that, under plain meaning, “condition of a road” simply reflects “a state of being for an open way for vehicles, persons, and animals.” TESLA-1054, ¶49 (citing TESLA-1056, 3). Thus, testimony from both expert witnesses demonstrates that a POSITA would not have inferred Koebler650’s description of “condition of a road” as representing an amount of vibration.

2. *Processing Of Terrain And Road Conditions Does Not Necessarily Involve Determining Vibration Information*

iQar also fails to produce evidence sufficiently demonstrating possession of processing techniques relating to ***an amount of vibration*** based on Koebler650’s disclosure of sensor functionality. The POR focuses on Koebler650’s description of sensor data samples collected by a gyroscopic sensor, a tire pressure sensor, and

a position sensor but fails to identify any description of how such collected data is further processed to determine vibration information. *See* POR, 33-36 (citing TESLA-1004, 4:3-11, 8:48-49, 21:49-51); TESLA-1054, ¶¶52-61.

As to the gyroscope sensor, Koebler650 teaches “gyroscope information” as including “vehicle’s current orientation” and “current slope/grade of road”—neither of which are the same as or specifically include vibration information. TESLA-1004, 21:29-62. To the extent that an amount of vibration may identified from this information, that description is absent from Koebler650’s written description. TESLA-1055, ¶53.

Indeed, a POSITA also would not have understood the process of determining “current slope/grade of road” as involving analyzing sensor data samples to detect an amount of vibration. As Dr. Morellas explains, “the ‘grade/slope’ refers to the inclination of the road surface, whereas ‘vibration refers to the rapid oscillatory motion of the vehicle due to road irregularities, engine function, or mechanical forces.” *Id.*, ¶55. Further “[s]ince slope/grade and vibration describe distinct physical characteristics of the driving environment, determining slope/grade of a road does not necessarily require analyzing vibration.” *Id.*

As to the tire pressure sensor, Koebler650 teaches tire pressure information

as being “used to calculate the drag force due to rolling resistance.” TESLA-1004, 21:49-50. But Koebler fails to describe that this type of calculation involves determining an amount of vibration. TESLA-1054, ¶56. A POSITA also would not have understood the process of determining tire pressure as necessarily requiring determining an amount of vibration. *Id.* As Dr. Morellas explains, “tire pressure measurement involves detecting the internal air pressure of a tire,” whereas “vibration measurement involves detecting oscillatory motion, typically using an accelerometer or specialized vibration sensor.” *Id.* Further, “[a] vehicle can experience vibration even when tire pressure remains constant[,]” and conversely, “tire pressure can change without inducing measurable vibration..” Thus, the process of determining tire pressure does not necessarily require or involve determining an amount of vibration.

The process of calculating a drag force due to rolling resistance similarly would not have been understood as necessarily requiring determining an amount of vibration. Specifically, “calculating drag force due to rolling resistance may be accomplished using parameters, such as tire pressure, vehicle weight, speed, and rolling resistance coefficients—none of which require measuring oscillatory motion or vibration.” *Id.*, ¶57. Further, “[r]olling resistance is a steady-state force that opposes motion and can be determined without analyzing transient

oscillations, and a vehicle can experience high rolling resistance on a smooth road with no vibration or low vibration.” *Id.*

As to the position sensor, the POR fails to identify any written description of Koebler650 as supporting its speculation that “a POSITA would have understood that position sensors....could be used to determine certain types of vibrations.” POR, 35-36. Koebler650 lacks any teaching regarding using position sensor data to measure vibrations. A POSITA also would not have recognized the examples of information determined by a position sensor within Koebler650 as necessarily requiring determining an amount of vibration. *Id.*, ¶58-61. For instance, Koebler650 describes using a position sensor to determine “position and elevation information” and “route tracking information,” neither of which necessitate determining vibration information. *Id.* (citing TESLA-1004, 3:41-67, 4:19-30). Dr. Bevely also confirmed the same—processing techniques identified in the POR may be conducted without necessarily measuring vibration information. TESLA-1055, 32:14-17, 37:13-20.

C. Koebler650 Fails To Demonstrate Possession Of Determining Moisture

1. Rain Is Not The Same Thing As Moisture

iQar fails to produce evidence sufficiently demonstrating possession of determining *moisture* based on Koebler’s disclosure of “rain.” See POR, 20-23. A

POSITA also would not have recognized rain as the same thing as moisture.

TESLA-1054, ¶62. In deposition, Dr. Bevly confirmed that Koebler650 did not teach identifying moisture information from rain. TESLA-1055, 20:1-4. Expert testimony also confirms that detecting rain itself does not necessarily represent specific moisture information. *Id.*, ¶63.

iQar’s interpretation of **moisture** encompassing “weather around the vehicle” also renders the claim language vague because the claims recite the current conditions of **weather** and **moisture** as distinct elements. That is, in ascertaining claim scope, iQar’s interpretation makes it unclear whether a single parameter of “weather around the vehicle,” such as “rain,” may properly represent both the current conditions of **moisture** and **weather**.

2. *Processing Of Rain Does Not Necessarily Involve Determining Moisture Information*

iQar also fails to produce evidence sufficiently demonstrating possession of processing techniques relating to **moisture** based on Koebler650’s disclosure of sensor functionality. The POR focuses on Koebler650’s description of sensor data samples collected by a position sensor and an optical sensor, but fails to identify any description of how such collected data is further processed to determine moisture information. *See* POR, 23-25 (citing TESLA-1004, 8:19-24, 21:29-37); TESLA-1054, ¶¶64-67.

As to the position sensor, iQar references communications with a “weather service” and analyzing such communications in relation to position information. POR, 23. But the cited portion (column 8, lines 19-24) fails to describe or suggest any processing of information obtained from a weather service to determine a current condition of moisture, particularly as distinguished from the already recited current condition of weather. iQar’s contention that “weather information include[s] moisture conditions” is also overly broad and relies on a configuration not specifically described in Koebler650. POR, 23. Indeed, Dr. Morellas identifies examples of moisture conditions that would not be readily apparent from weather information. TESLA-1054, ¶65.

As to the optical sensor, iQar references “sensors for detecting external environmental information” but, again, fails to identify within Koebler650 any processing relating to “external environmental information” received from an optical sensor to determine a current condition of moisture. POR, 24 (citing TESLA-1004, 21:31-33). The assertion that “it was well-known and common that [optical sensors] could be used to detect moisture (*e.g.*, rain)” also does not support possession because it relies on POSITA knowledge to improperly fill in the gaps of the written description. *Id.*; *see* §IV.A. Dr. Morellas also explains how “external environmental information” is a generic term that may be understood include

parameters unrelated to moisture. TESLA-1054, ¶66. Koebler650 confirms this understanding through identification of examples of “information about the external environment of the vehicle” unrelated to moisture, such as “current location,” “elevation” and “predicted slope/grade.” TESLA-1004, 3:41-67. And, while column 3, lines 41-67 expressly lists various types of external environmental information, there is no reference to “moisture” or any other information that inherently represents moisture information. TESLA-1054, ¶67; *see* TESLA-1055, 20:1-21.

D. Koebler650 Fails To Demonstrate Possession Of Determining Other Enumerated Current Conditions

iQar also fails to produce evidence sufficiently demonstrating possession of processing techniques relating to the current conditions of (a) *weather*, *temperature*, *wind velocity*, *wind direction*, and *air pressure* (“Weather Current Conditions”), and (b) *timing of stoplights* and *location of stoplights* (“Stoplight Current Conditions”). *See* POR, 16-20 (citing TESLA-1004, 8:12-24, 21:29-37). The POR focuses on Koebler650’s description of sensor data samples collected by a position sensor and an optical sensor, but fails to identify any description of how such collected data is further processed to determine information relating to the Weather Current Conditions and the Stoplight Current Conditions. TESLA-1054, ¶¶68-71.

As to the position sensor, the POR fails to identify any teaching within Koebler650's description that a current vehicle position is used to process weather- and stoplight-related information (whether sensed or received via telemetry). *Id.*, ¶69. For instance, while column 8, lines 19-24 identify receipt of "information by telemetry," via communications with "a weather service, a map service, a traffic service, etc.," there is no reference to a position sensor in this paragraph. POR, 17 (citing TESLA-1004, 8:19-24). iQar instead speculates that this information is further processed based on a vehicle's present location to identify information relating to the Weather Current Conditions and the Stoplight Current Conditions. The need for such speculation demonstrates a lack of possession since, as noted in the Petition, "Koebler650 fails to describe or suggest what type of information is obtained from the 'weather service,' how the 'weather service' is configured to collect weather information and provide it to the vehicle, or how the vehicle determines current conditions based on information received from the 'weather service.'" Pet., 64. The same deficiencies in disclosure apply for traffic information obtained from a traffic service. *Id.*

iQar's speculation also presupposes that the *only* way to identify location-specific information obtained from an external service (e.g., weather service, traffic service, map service) is by processing data collected by a vehicle's position

sensor. But, as Dr. Morellas explains, around Koebler650's filing date, "[a] POSITA would have known of various methods of distributing weather information to vehicles, including broadcast-based satellite transmission." TESLA-1054, ¶70 (citing TESLA-1058, [0164], [0177], [0235]). He also identifies examples of methods where "traffic information does not specify any stoplight information[]" (*id.*, ¶74 (citing TESLA-1059, Abstract); *see id.*, ¶75 (citing TESLA-1060, [0064])). Further, "a POSITA would have known of vehicle systems that were configured to receive location-specific traffic information from an external traffic service without necessarily processing sensor data samples collected by a position sensor" *Id.*, ¶77 (citing TESLA-1059, Abstract). Thus, Koebler650's generic reference to communications with "a weather service, a map service, a traffic service, etc." does not itself demonstrate possession of analyzing sensor data samples collected by a position sensor to determine the Weather Current Conditions and the Stoplight Current Conditions. *See* TESLA-1004, 8:12-24.

As to the optical sensor, iQar tacitly admits that Koebler650 fails to teach analyzing sensor data samples to determine Weather Current Conditions or Stoplight Current Conditions because the POR fails to cite to its written description. *See* POR, 19-20. Dr. Morellas also confirms that "[t]here is no

language in Koebler650 suggesting that would have informed a POSITA that the system analyzes a series of optical sensor data samples over time to generate or infer weather-related or traffic-related conditions.” TESLA-1054, ¶¶71. He also identified examples of weather and stoplight information that require processing based on samples collected by an optical sensor that are otherwise not described in Koebler650. *Id.*, ¶¶68-79.

IV. IQAR’S POSITIONS ARE CONTRARY TO FEDERAL CIRCUIT PRECEDENT AND PANEL DECISIONS

Beyond the defects within Koebler650 discussed above, iQar’s position is also legally untenable because it is contrary to Federal Circuit and PTAB panel decisions finding a lack of possession of a claimed invention where a specification fails to include specificity to prevent speculation. For example, as discussed below, the facts here are similar to those at-issue in *Knowles v. Cirrus Logic*, where the Federal Circuit affirmed a PTAB Decision on Appeal finding a lack of written description support where only general soldering was disclosed in a specification, but the claims recited a specific means of soldering. 883 F.3d 1358 (Fed. Cir. 2018); *see* 2016 WL 1378707 (PTAB April 5, 2016).

A. Federal Circuit Decisions Require Specificity In The Written Description To Demonstrate Possession

iQar’s reliance on POSITA knowledge of conventional sensor processing techniques does not remedy the deficiencies in Koebler650’s written description.

As the Federal Circuit has explained, “[i]t is not sufficient for purposes of the written description requirement of § 112 that the disclosure, **when combined with the knowledge in the art**, would lead one to speculate as to the modifications that the inventor might have envisioned, but failed to disclose.” *Lockwood*, 107 F.3d, at 1572; *see Amgen Inc. v. Sanofi*, 872 F.3d 1367, 1373-74 (Fed. Cir. 2017). Indeed, when assessing entitlement to priority to a prior-field application, “[i]t is the disclosure[] of the application[] that count[s]” because “[e]ntitlement to a filing date does not extend to subject matter which is not disclosed, but would be obvious over what is expressly disclosed.” *Id.*, 1571-72.

Koebler650 fails to satisfy the written description requirement because, as iQar concedes, it lacks express disclosure of the Current Condition Limitations and otherwise lacks the specificity that would have led a POSITA to “clearly conclude that the inventor invented the claimed invention as of the filing date sought.” *Id.*, 1572; *see Martin v. Mayer*, 823 F.2d 500, 504 (Fed. Cir. 1987) (stating that it is “not a question of whether one skilled in the art **might be able to construct** the patentee’s device from the teachings of the disclosure.... Rather, it is a question whether the application **necessarily discloses** that particular device.”).

More specifically, the deficiencies in Koebler650’s written description closely mirror those of the specification at-issue in *Knowles*. 883 F.3d, 1366.

There, the Federal Circuit found that generalized disclosure of solder pads capable of connection to a board did not adequately support the specific claimed means of connection via a solder reflow process. *Id.* The Court also noted that the patent owner “misunderstands the PTAB’s analysis” in focusing on “the state of the art at the time of filing” and “prior art knowledge” relating to well-known solder reflow processes. *Id.* Because the specification “detail[ed] only the broad idea of solder pads connected to the circuit board,” and the Court affirmed the PTAB’s finding that the specification “fail[ed] completely to disclose the newly claimed species of such pads—pads that are connectable to a board specifically by using a reflow process.” *Id.* (citing 2016 WL 1378707, at *7 (PTAB April 5, 2016)).

Like the specification at-issue in *Knowles*, Koebler650 only details the broad idea of using sensors to determine various parameters. As discussed in §III, *supra*, its written description fails to teach how detection of certain Enumerated Current Conditions (e.g., *traction, amount of vibration, moisture*) or how data from one of the Enumerated Sensors is analyzed to determine them. And, like the patent owner in *Knowles*, iQar misunderstands that this gap in the written description cannot be remedied with POSITA knowledge because other unclaimed alternatives exist in the prior art. *Id.*, 1366 (“The PTAB acknowledged that solder reflow was a process of connecting a board to a solder pad but found that **other processes of**

connection existed in the prior art”).

Knowles is also instructive because “[t]he parties presented conflicting views of the knowledge of a PHOSITA and disputed whether such a person would have understood” the written description as demonstrating possession of the claimed invention. 883 F. 3d, 1366. The PTAB’s findings were reasonable under these circumstances “[g]iven these uncertainties and at best a passing reference to [claim features] in the specification...” *Id.*

Here, the parties similarly dispute the knowledge of a POSITA as to possession, and Koebler650 provides only a “passing reference” to certain parameters—parameters not necessarily representing the same thing as the current conditions of *traction*, *amount of vibration*, and *moisture*. *Id.* Further, as explained in §III, *supra*, the proceeding record is without any evidence indicating that these current conditions are inherent attributes of the disclosed parameters, or that processing relating to these disclosed parameters necessarily involves determining the current conditions.

Koebler650’s lack of specificity also contravenes well-established precedent explaining that the written description requirement exists to preclude the broad application of the disclosure to all potential implementations. *Lizardtech*, 424 F.3d at 1346 (citing *Merrill v. Yeomans*, U.S. 568, 573-74 (1876)). Although

Koebler650 may contemplate the use of a variety of sensors to determine parameters, it does not specifically teach how sensor data is analyzed to determine current conditions in the manner recited in the claims. That is, while generic disclosure may enable a POSITA to appreciate the general concept of using sensors, it falls short of demonstrating possession of specific implementations.

B. Panel Decisions Further Confirm That A Lack of Specificity Fails To Demonstrate Possession

Consistent with Federal Circuit guidance discussed above, the PTAB has similarly found a failure to satisfy the written description requirement based on a lack of specificity. In IPR2022-01564, a panel found that although a provisional application disclosed aspects of a later claimed method—such as rendering receipt information in a machine-readable element and optical scanning—this generic disclosure did not establish that the inventors had a precise, detailed methodology for confirming payment. Pap. 31, 33-47 (PTAB April 10, 2024). As discussed above, Koebler650 similarly generically discloses the use of sensors to determine parameters without providing the specific processing techniques or sensor data analyses needed to ascertain specific current conditions.

In PGR2023-00016, a panel found a failure to satisfy the written description and enablement requirements for a claim limitation requiring a switch that, when activated, provides at least two different DC forward voltages to at least one LED

circuit. Pap. 32, 60-63 (PTAB Jul. 31, 2024). The panel found that the earlier priority disclosures only described changes in forward voltage as a function of connecting LED circuits in series versus parallel. *Id.* This generic, limited disclosure did not adequately convey that the inventors possessed the full scope of the claimed invention, forcing the effective filing date to be that of the filing date, rather than an earlier date. *See id.*, 25-26, fn 7 (“On the record before us and given the generic nature of the disclosures relied on by Patent Owner, we find Patent Owner’s arguments unavailing.”).

Here, like the patent owner in PGR2023-00016, iQar’s reference to parameters identified on Koebler650 “do not rely on actual disclosures,” but “rather on what configurations may have been obvious to the skilled artisan in view of the disclosures” in Koebler650. *Id.* And, “it is well settled that a description that merely renders the invention obvious does not satisfy the written description requirement.” *Id.*, 25. As previously noted, iQar’s position lacks meaningful evidentiary support because Koebler650 fails to expressly disclose the several Enumerated Current Conditions and the proceeding record is without any evidence indicating that these current conditions are inherent attributes of the disclosed parameters, or that processing relating to the disclosed parameters **necessarily** involves determining the current conditions.

V. CONCLUSION

For the foregoing reasons, Tesla respectfully requests a final written decision finding the Challenged Claims unpatentable.

Respectfully submitted,

Date: 3-13-25

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CERTIFICATION UNDER 37 CFR § 42.24(d)

Under the provisions of 37 CFR § 42.24(d), the undersigned hereby certifies that the word count for the foregoing Petitioner's Reply to Patent Owner's Response totals 5,556, which is less than the 5,600 allowed under 37 CFR § 42.24(b)(1).

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), the undersigned certifies that on March 13, 2025, a complete and entire copy of this Petitioner's Reply to Patent Owner's Response and all supporting exhibits were provided via via email, to the Patent Owner by serving the email correspondence addresses of record as follows:

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