

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CUB ELECPARTS INC.

Petitioner,

v.

ORANGE ELECTRONIC CO., LTD.

Patent Owner.

IPR2024-00744
Patent No. 8,031,064 C3

PATENT OWNER'S PRELIMINARY RESPONSE

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TABLE OF EXHIBITS

Exhibit	Description
2001	Mitchell1, “Tire Pressure Monitoring Systems Guide,” 2007 (excerpt)
2002	File History – <i>Ex Parte</i> Reexamination No. 90-012,430
2003	File History – <i>Ex Parte</i> Reexamination No. 90-013,169
2004	File History – <i>Ex Parte</i> Reexamination No. 90-014,362
2005	IPR2021-00383, Decision Denying Institution (Paper 8)
2006	U.S. Patent No. 6,927,679 to Taguchi et al. (“Taguchi”)
2007	U.S. Publication No. 2006/0208864 to Nantz et al. (“Nantz”)
2008	U.S. Patent No. 6,920,785 to Toyofuku
2009	Appeal Notice, Taiwan IP Court to the Supreme Administrative Court
2010	Certified Translation of Appeal Notice (Ex-2009)
2011	Reply Brief filed January 30, 2006 in U.S. Application No. 10/716,121

Patent Owner Orange Electronic Co. Ltd. (“Orange” or “Patent Owner”) submits this Preliminary Response to the Petition seeking *inter partes* review of claims 16-19, 21, and 23-29 (“the Challenged Claims”) of U.S. Patent No. 8,031,064 C3 (“the ’064 Patent,” Ex-1001), filed by CUB Elecparts, Inc. (“CUB” or “Petitioner”).

I. SUMMARY OF ARGUMENT

The Board should deny CUB’s Petition because it fails to establish a reasonable likelihood of success under any of Grounds 1-3.

The Petition relies primarily on three references (Tang, Lemense, and an uncertified machine translation¹ of Matsui) that teach no more than the art thoroughly considered by the U.S. Patent and Trademark Office (“USPTO” or “Office”) in three reexaminations and a previous IPR. Notably, the Petition recycles the same teachings and arguments already considered and found lacking by the Office in relation to the very features of the Challenged Claims that were

¹ In addition to relying on an uncertified machine translation of the Matsui reference, the Petition misrepresents the status of the pending appeal in Patent Owner’s Taiwanese application, was submitted in 12-point font, and relies on a Declaration regarding alleged prior art products.

added during reexamination to obtain allowance. Despite this, the Petition does not evaluate the *Becton, Dickinson* factors or apply the two-part *Advanced Bionics* framework used by the Board in exercising its § 325(d) discretion. The Office's previous findings with respect to the same or substantially same art and arguments presented by the Petition are equally applicable here, yet simply ignored by the Petition.

Thus, Petitioner has failed to meet its initial burden to show that each element of the Challenged Claims was known or obvious over the prior art references. The Board should therefore deny institution.

II. OVERVIEW OF THE '064 PATENT

A. Overview of the '064 Patent

The '064 Patent is directed to a tire pressure detecting apparatus including an identification rewriteable tire pressure detector and a setting apparatus.

Conventional tire pressure monitoring systems (TPMS) are used to monitor air pressure inside of tires in a vehicle. A typical setup includes an in-vehicle monitoring apparatus that receives signals from tire pressure detectors respectively mounted on the tires. Each tire pressure detector has an identification recorded therein and known by the monitoring apparatus. The tire pressure detector includes its identification in signals sent to the monitoring apparatus for reporting

sensed tire pressures. The monitoring apparatus is therefore able to identify the corresponding tire to which a tire pressure signal belongs. Ex-1001 at 1:25-40.

When an old tire pressure detector fails and is replaced by a new tire pressure detector, the identification of the new tire pressure detector no longer matches the identification stored in the monitoring apparatus. As a result, a setting apparatus is required to write the new detector's identification into the monitoring apparatus. *Id.* at 1:39-43. A conventional setting apparatus, however, is only capable of communicating with a certain type of tire pressure detector, such as a tire pressure detector manufactured by the same manufacturer as the setting apparatus. *Id.* at 1:52-58.

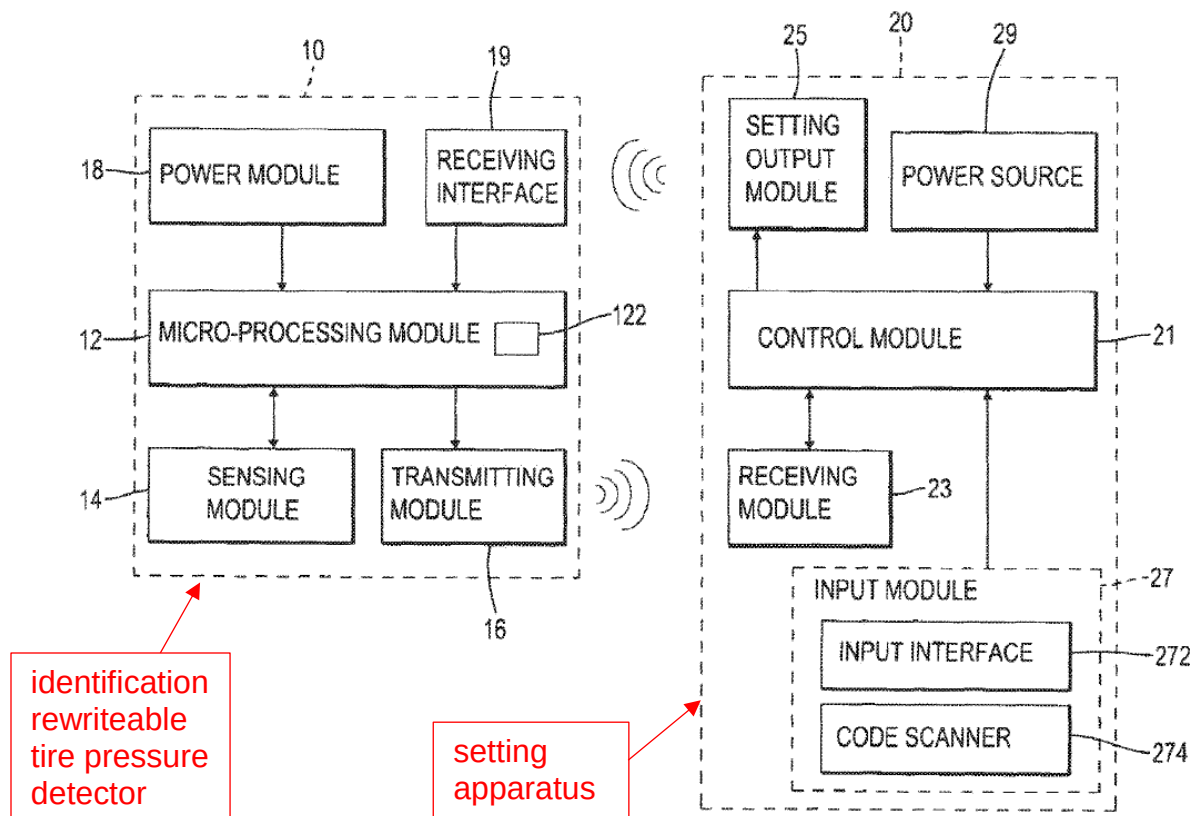
Prior to Patent Owner's invention, service centers would experience great difficulty in accessing the vehicle's computer (monitoring apparatus) to reset the stored identification in order to match the new tire pressure detector's identification. Typically, a service center would have to search a voluminous operation guide manual (*see, e.g.*, Ex-2001) to ascertain the manufacturer-specific procedure and equipment for resetting the tire pressure detector identification. Replacing an old tire pressure detector with a new tire pressure detector was therefore complicated and costly due to the need to find a certain tire pressure detector compatible with the setting apparatus or the need to reset the monitoring apparatus.

Patent Owner's invention eliminated the complex and inflexible sequence of steps conventionally required to replace a failed tire pressure detector. Using the '064 Patent's technology, service centers can now easily and reliably replace a tire pressure detector by a few simple steps, without the need to reset the vehicle's computer (monitoring apparatus) and without being bound to a particular manufacturer's equipment. Ex-1001 at 4:45-50.



conventional TPMS operating guide (L) vs. simple one-page guide pursuant to
'064 Patent technology (R)

The '064 Patent's inventive TPMS includes identification rewriteable tire pressure detectors 10 and a setting apparatus 20:

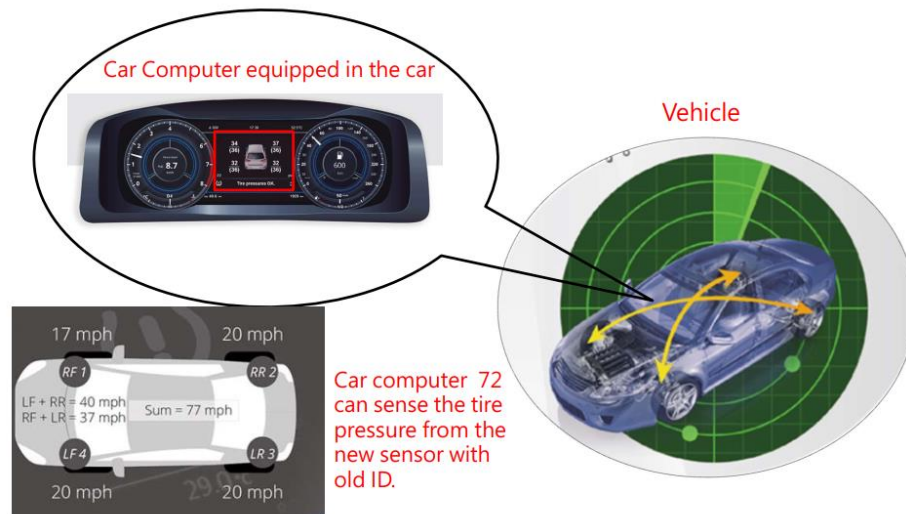


(Ex-1001 at FIG. 1 (annotated))

The identification rewriteable tire pressure detectors 10 are mounted on vehicle tires and each include a micro-processing module 12, a sensing module 14, a transmitting module 16, a power module 18, and a receiving interface 19. The micro-processing module 12 has a rewritable memory unit 122 that records a new identification transmitted from the setting apparatus 20. *Id.* at 2:38-50.

The setting apparatus 20 communicates with both the old tire pressure detector and the identification rewriteable tire pressure detector 10, and includes a control module 21, a power source 29, a setting output module 25, a receiving module 23, and an input module 27. *Id.* at 3:29-42.

When an old tire pressure detector is replaced by a new identification rewriteable tire pressure detector, the setting apparatus 20 reads the identification from the old tire pressure detector, and transmits the identification of the old tire pressure detector to the new identification rewriteable tire pressure detector regardless of what type of tire pressure detector the old detector was. *Id.* at 4:7-32. The setting apparatus 20 then judges the consistency between the identification subsequently received from the new identification rewriteable tire pressure detector and the old identification previously read from the old tire pressure detector. *Id.* at 4:33-44. As a result, a tire pressure detector can be easily and reliably replaced by directly copying the identification specifically stored in the old tire pressure detector and writing it in the new detector. *Id.* at 1:65-2:2, 4:7-50. The vehicle's computer (monitoring apparatus) can thereafter receive sensed tire pressures from the new detector (or sensor) with the old ID, thus obviating the need to reset the computer.



B. Prosecution History of the '064 Patent

The '064 Patent issued on October 4, 2011 with 13 claims. Since issuance, the '064 Patent has undergone three *ex parte* reexaminations and a previous *inter partes* review request filed by Autel Intelligent Technology Corp., Ltd. (IPR2021-01545, hereinafter "Autel IPR").

1. The First and Second Reexaminations

The first reexamination, Reexamination Control No. 90/012,430, confirmed the patentability of original claims 8 and 10-13, canceled claims 1-7 and 9, and added new claims 14 and 15. Ex-2002 at 425-426; *see also* Ex-2004 at 14-15 (summary). A second reexamination certificate subsequently issued on December 12, 2014, canceling claims 8 and 10-15 and adding new claims 16-25. Ex-2003 at 363-365; *see also* Ex-2004 at 15-17 (summary). Among the added

claims, dependent claim 23 was directed to a consistency judgment by the setting apparatus:

23. (New): The method as claimed in claim 22, wherein the verifying step comprises:
receiving, by the setting apparatus, a wireless signal from the new identification
rewriteable tire pressure detector, wherein the wireless signal comprises the update
identification newly recorded in the rewritable memory unit;
judging, by the setting apparatus, consistency of the update identification newly
recorded in the rewritable memory unit and the old identification of the old tire pressure
detector; and
if the update identification newly recorded in the rewritable memory unit is not
consistent with the old identification of the old tire pressure detector, performing the generating
step again.

(Ex-2003 at 343 (annotated))

2. The Third Reexamination

In the third and final reexamination (Reexamination Control No. 90/014,362, hereinafter “Third Reexamination”), claims 20 and 22 were cancelled, claims 16, 18, 21, 23, 24, and 25 were amended, claims 17 and 19 were determined to be patentable without amendment, and new claims 26-29 were added. Ex-2004 at 1505-1509. The resulting claims 16-19, 21, and 23-29—all challenged by the instant Petition—were confirmed as patentable.

Claims 16-19, 21, 23-25, and 29: The Request for *Ex Parte* Reexamination (Ex-2004 at 5-95) argued that all the claims were obvious over U.S. Patent No.

6,927,679 to Taguchi et al. (Ex-2006) in view of Nantz (Ex-2007) and Toyofuku (Ex-2008), as well as Taguchi in view of Lemense (Ex-1004) and Toyofuku (Ex-2008). Ex-2004 at 18-19. Toyofuku was particularly relied on for an alleged teaching of claim 23's consistency judgment. *Id.* at 58.

To this end, Toyofuku discloses a tire pressure detector that receives a new identification code from a setting apparatus (4), writes that code into its memory, and returns a verification signal including the new code back to the setting apparatus (4). Ex-2008 at 5:40-57. The setting apparatus (4), in turn, verifies the signal. *Id.* at 5:58-67. The third-party requester argued that this verification corresponds to the claimed consistency judgment:

Toyofuku

“When the outputting the data to the external input signal controller 23 is finished, the dedicated writing device 4 outputs a signal for turning the signal A to the low level, whereby the external input signal controller 23 confirms a completion of the input, and outputs the imported self-identification code as the R part of the signal B to the dedicated writing device 4 for a verification. **The dedicated writing device 4 automatically verify the signal, and if the verification is O.K., a sign of the completion of writing is displayed on the data display 42.**” at 5:58-67

(Ex-2004 at 58)

The Office disagreed. In the sole Office Action issued January 10, 2020 (*id.* at 1376-1400), the Central Reexamination Unit (CRU) adopted the requester's proposed rejections of claims 16-22, 24, and 25 based on Taguchi, Nantz, and

Toyofuku (Ex-2004 at 1374-1376, 1397-1398), but found the prior art deficient with respect to the consistency judgment of claim 23:

The teachings associated with Toyofuku shows that the controller 23 confirms completion of the input and outputs a signal to the writing device 4 for a verification. Although the dedicated writing device 4 verifies the signal (which is based upon completion of inputting the data), the teachings do not show that the writing device judges the consistency of the update identification newly record in the rewritable memory unit and the old identification of the old tire pressure detector”, rather it just verifies completion of the input of data.

(Ex-2004 at 1399-1400)

Thereafter, on April 8, 2020, Patent Owner amended independent claims 16 and 18 to incorporate the allowable consistency judgment features of claim 23, and rewrote dependent claim 23 into independent form. *Id.* at 1474-1475. The resulting Notice of Intent to Issue a Reexamination Certificate (Ex-2004 at 1490-1497) indicated claims 16-19, 21, 23-25, and 29 as patentable based on the prior art’s failure to teach the claimed consistency judgment (“judging, by the setting apparatus, consistency of the update identification newly recorded in the rewritable memory unit and the old identification of the old tire pressure detector”). *Id.* at 1496.

Claims 26-28: The April 2020 Amendment also added new independent claims 26-28. Independent claim 26 recited, *inter alia* (emphasis added):

wherein the portable setting apparatus is not equipped in the vehicle and is portable relative to the vehicle, and is configured to:

obtain an update identification to be written into a new identification rewriteable tire pressure detector either by (1) **receiving the RF signal from an old tire pressure detector by the receiving module**, retrieving an old identification of the old tire pressure detector from the RF signal, and using the old identification as the update identification, or by (2) receiving a manual input of the identification from the input module, and using the identification as the update identification, **wherein the old tire pressure detector stores only the old identification**;

store the update identification in the setting apparatus; and

generate the external signal comprising the update identification as the external identification, and send the external signal to the new identification rewriteable tire pressure detector such that the new identification rewriteable tire pressure detector records the update identification in the rewritable memory unit or overwrites the preset identification in the rewritable memory unit by the update identification, **wherein the external identification is from the old tire pressure detector**, and the external signal is a low frequency (LF) signal.

Id. at 1467-1469.

Independent claims 27 and 28 similarly included features directed to the setting apparatus receiving the old identification from the old tire pressure detector, which stores **only** the old identification. *Id.* at 1469-1472.

The preceding January 2020 Office Action had conceded that Taguchi does not teach “the portable setting apparatus is configured to receive the RF signal

from an old tire pressure detector,” as previously presented in claim 16. *Id.* at 1379. Instead, the Office Action cited to Nantz’s disclosure of a setting apparatus (immobilizer 102) that receives the old identification from the old tire pressure detector (TPM sensor 104):

(1) receiving the RF signal from an old tire pressure detector by the receiving module, retrieving an old identification of the old tire pressure detector from the RF signal, and using the old identification as the update identification,

Nantz discloses immobilizer 102 may read the ID of the damage TPM sensor and transmit an LF signal containing the ID of the damage sensors to a replacement TPM sensors 104. The ID of the damaged TPM sensors may be read as a result of a signal that is transmitted from the damaged TPM sensor to immobilizer 102. See paragraphs [0029-0030]. See also paragraphs [0014-0015].

(Ex-2004 at 1379)

The Office Action also considered Toyofuku’s disclosure of using the old identification from the old tire pressure detector (sensor unit) as the update identification for the new tire pressure detector. *Id.* at 1381 (quoting Toyofuku (Ex-2008) at 2:42-45 (“[A] self-identification code identical to that of the sensor unit attached to the tire wheel before the replacement can be written in the sensor unit after the replacement via the interface.”)).

In the April 2020 Amendment, Patent Owner distinguished new claims 26-28 by specifying that the old tire pressure detector stores **only** the old

identification. Conversely, Nantz discloses its old detector (TPM sensor 104) storing plural IDs:

However, paragraph [0030] of Nantz explicitly teaches that “a bank of TPM sensor IDs is stored in the memory of TPM sensor 104, immobilizer 102 or any other module that interfaces with immobilizer 102” (emphasis added). In other words, the TPM sensor 104 stores a bank of **TPM sensor IDs (in plural form)** instead of only one identification. Nowhere in Nantz teaches the TPM sensor 104 storing only one ID.

Accordingly, Nantz, in combination with Taguchi, fails to teach or suggest the limitation of “*wherein the old tire pressure detector stores only the old identification*” as recited in new claim 26.

(Ex-2004 at 1481)

Patent Owner additionally argued that Taguchi’s alleged setting apparatus (the vehicle’s computer, *i.e.*, monitoring apparatus) does not receive the update identification from a tire pressure detector, and Toyofuku’s system communicates via wire and not an RF signal. *Id.* at 1480-1482.

These arguments were found persuasive in the Notice of Intent to Issue a Reexamination Certificate:

With respect to Nantz, the Patent Owner states that in paragraph [0030], Nantz explicitly teaches that “a bank of TPM sensor IDs is stored in the memory of TPM sensor 104, immobilizer 102 or another module that interfaces with immobilizer 102”. The Patent Owner argues that none were in Nantz does it disclose the TPM sensor 04 storing only one ID.

With respect to Toyofuku, the Patent Owner argues that the ID is manually input through wire communication and thus Toyofuku does not disclose that the external signal (which is used to transmit the update identification) is a low frequency signal.

The examiner notes that although Toyofuku discloses a wire communication, low frequency signals are disclosed by Nantz. Nonetheless, in view of the above comments, upon review of all of the arguments presented by the Patent Owner, the examiner finds the arguments persuasive. The examiner notes that the Patent Owner provides the same arguments with respect to new claims 27 and 28.

(Id. at 1495)

In summary, claims 16-19, 21, 23-25 were deemed patentable because the prior art failed to disclose or render obvious the claimed consistency judgment against the old identification of the old tire pressure detector. Instead, Toyofuku’s verification operation “just verifies completion of the input data.” *Id. at 1496.*

Further, claims 26-28 were deemed patentable because the prior art failed to disclose or render obvious the claimed setting apparatus wirelessly receiving the old identification from the old tire pressure detector that stores only the same. *Id. at 1495.*

3. Previous IPR2021-01545

All of the claims of the '064 Patent were previously challenged in the Autel IPR (IPR2021-01545), which was discretionarily denied institution under 35 U.S.C. §325(d) on April 8, 2022. Ex-2005 at 27.

Autel's Petition challenged the patentability of the claims on the following three grounds:

Claims Challenged	35 U.S.C. §	Reference(s)
16, 18, 21, 23, 24, 26–29	103(a) ⁴	Nihei, ⁵ Nantz, ⁶ Toyofuku ⁷
17, 19, 25	103(a)	Nihei, Nantz, Toyofuku, Lemense ⁸
17, 19, 25	103(a)	Nihei, Nantz, Toyofuku, Itou ⁹

Ex-2005 at 11. Notably, for the material “judging... consistency” limitation, the petitioner relied on Toyofuku's and Nihei's disclosures that, “after the new identification is written in the memory of a tire pressure detector, the tire pressure detector sends back a signal verifying that the new identification has been successfully stored in memory.” Ex-2005 at 18 (quoting IPR2021-01545, Petition (Paper 1) at 23). The Board disagreed, finding that these references, “including their express disclosures of sending the setting device a signal ‘to the effect that the new ID has been stored and held in the memory 34,’ facially do not disclose the judging consistency limitation any more so than the portion of Toyofuku that the Examiner found lacking.” *Id.* at 21; *see also id.* at 24 (“Petitioner does not

demonstrate that Nihei discloses the judging consistency limitation any more so than Toyofuku.”). The Board also gave no persuasive weight to Autel’s expert testimony that a POSITA would understand that the prior art’s input verification would include a consistency judgment, particularly because it lacked any objective support. *Id.* at 21-22.

Meanwhile, for claims 26-28 including the “old identification” limitation, Autel had cited to the same teachings of Nantz that were previously considered and found lacking in the Third Reexamination. *Id.* at 17-18. As a result, the Board exercised its discretion under § 325(d) and denied institution. *Id.* at 27.

III. CLAIM CONSTRUCTION

The Petition submits that the claim terms be accorded their ordinary and customary meaning and do not require further construction by the Board. Petition at 17. For purposes of this Preliminary Response, Patent Owner does not believe that any claim terms need construction to resolve the prior art grounds raised in the Petition.

IV. PERSON OF ORDINARY SKILL IN THE ART

For purposes of this Preliminary Response, Patent Owner does not dispute CUB’s definition of a POSITA.

V. OVERVIEW OF PRIOR ART

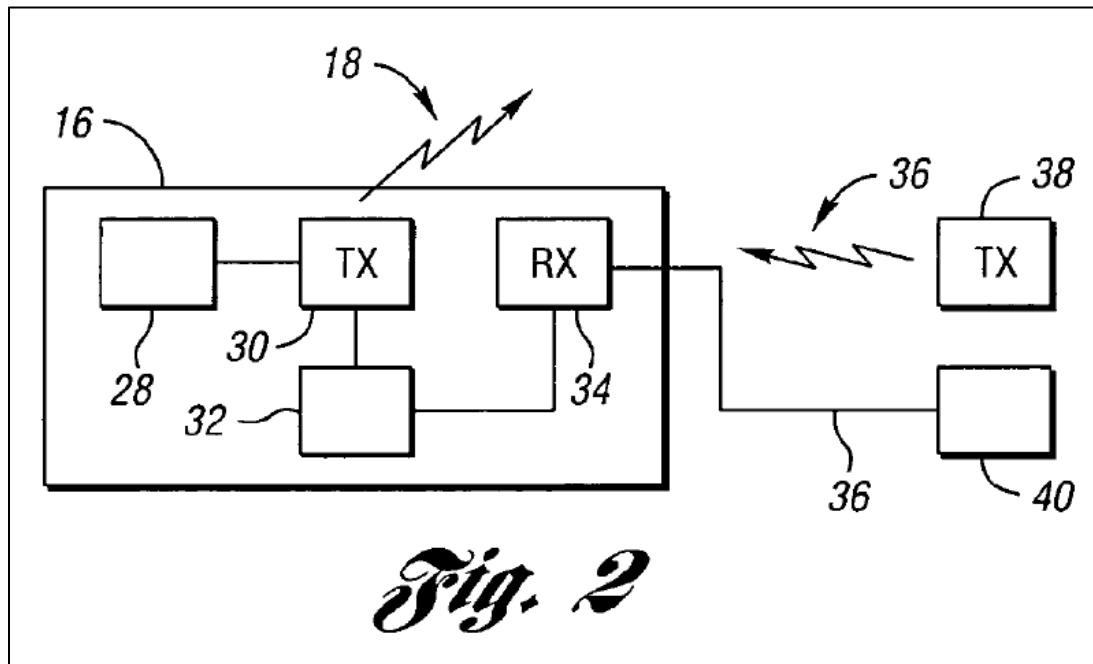
A. Overview of Tang (Ex-1002)

Tang is primarily relied on in the Petition for alleged teachings of the tire pressure detector features of the Challenged Claims. Petition at 19. Tang is directed to a universal tire pressure monitor “for use in a remote tire pressuring monitoring system for [a] vehicle.” Ex-1002 at Abstract, Title.

Tang explains that conventional tire pressure monitoring (TPM) systems differed from one manufacturer to the next, particularly with respect to their wireless signaling characteristics “such as carrier frequency, modulation scheme, data format and/or encryption techniques.” *Id.* at 1:23-34. As a result, installers and aftermarket providers of replacement parts were required to stock multiple tire monitors respectively configured for the different TPM systems. *Id.* at 1:35-43, 3:42-63. Tang purports to resolve this problem by providing a single universal monitor “that can be used with multiple TPM systems.” *Id.* at 1:39-41.

As shown in FIG. 2, reproduced below, Tang’s universal tire pressure monitor includes: a **sensor 28** for sensing the pressure of the associated tire (*id.* at 4:1-9); a **controller 32** for storing a plurality of manufacturers’ codes respectively identifying manufacturers’ wireless signal formats (*e.g.*, carrier frequency, modulation scheme, etc.) (*id.* at 4:21-32); a **receiver 34** for receiving a program signal 36 from a remote device instructing which of the stored manufacturers’ codes the monitor is to use (*id.* at 4:33-52); and a **transmitter 30** for transmitting wireless signals 18, including the sensed tire pressure, in accordance with the

instructed manufacturer code to an in-vehicle control module 20 (shown in FIG. 1) for output to a vehicle occupant (*id.* at 4:10-20, 4:53-65).



(FIG. 2 of Tang)

Because Tang's monitor includes a plurality of manufacturers' codes defining different manufacturers' signal formats, the monitor can be universally used for signaling tire pressure to the different manufacturers' TPM systems.

Notably, Tang makes no suggestion of obtaining or otherwise using a previous or "old identification of the old tire pressure detector," as required by the Challenged Claims. In fact, Tang provides no description whatsoever of any identification for its tire pressure detector, let alone transmitting or receiving an identification to/from a tire pressure detector. Thus, Tang does not disclose or

otherwise suggest either the “judging... consistency” or “old identification” features that resulted in allowability of the claims during the Third Reexamination.

B. Overview of Lemense (Ex-1004)

Lemense is primarily relied on in the Petition for alleged teachings of the setting apparatus features of the Challenged Claims. Petition at 21. Lemense was considered by the Office during all three reexaminations of the '064 Patent² as well as the Autel IPR. *See* discussion *supra* Section II.B. Lemense is directed to a tire pressure monitoring system and method for identifying and replacing a non-working tire pressure sensor unit mounted in a vehicle. EX-1004 at Abstract, 3:56-4:4.

Lemense explains that in the prior art, replacing a tire pressure sensor required configuring the vehicle control module with the new sensor's ID code in order to allow correct identification of the new sensor. *Id.* at 1:55-61. “However, this process add [sic] time, complexity, and expense when servicing the [tire pressure monitoring] system.” *Id.* at 1:61-63. To address this issue, Lemense

² Lemense was submitted and “CONSIDERED” by the CRU during the first reexamination (Ex-2002 at 381), and applied during the second and third reexaminations (Ex-2003 at 278-279; Ex-2004 at 18-19).

proposes a method in which a service tool clones the ID of the old, to-be-replaced sensor and programs it into the new, replacement sensor. *Id.* at 3:56-4:4.

Lemense's proposed servicing method is shown in FIG. 4:

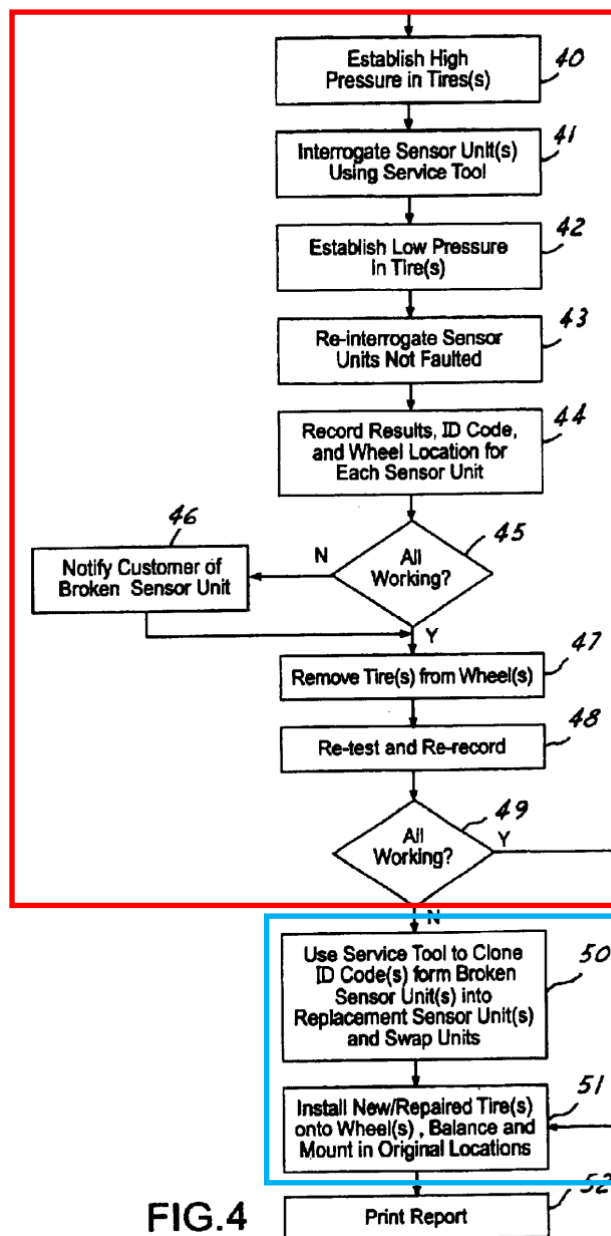


FIG.4

(FIG. 4 of Lemense (annotated))

The method begins with a multi-phased interrogation process (annotated in red above) to identify a non-working tire pressure sensor unit, *i.e.*, the old sensor in the overall servicing method. *Id.* at 3:14-55. In this process, the service tool first interrogates the sensor unit after a full (or high) pressure is established for the corresponding tire (steps 40-41). *Id.* at 3:18-30. Here, the service tool receives pressure measurement data along with the old sensor's ID, and compares the pressure measurement data to an expected pressure (*i.e.*, a high pressure) in order to identify a faulty sensor. *Id.* at 3:21-30. This interrogation is then repeated after establishing a low-pressure state for the tire (steps 42-43), and again after removal of the tire (steps 47-49). *Id.* at 3:29-34, 3:47-55. In other words, proper functioning of the old sensor is tested for both high- and low-pressure states of the corresponding tire, and both before and after tire removal. The service tool records the respective results of the interrogations in association with the old sensor's ID (steps 44, 48). *Id.* at 3:31-36.

If the interrogation process determines the old sensor to be faulty (step 49), Lemense's method proceeds to a sensor replacement process (steps 50-51), annotated in blue above. *Id.* at 3:56-4:15. During the replacement process, the service tool copies the old sensor's ID and programs it into the new sensor. *Id.* at 3:57-4:1. "Consequently, there is no need to reconfigure the correlation of ID

codes with wheel locations stored in the control unit since these have not changed even if a sensor unit has been replaced.” *Id.* at 4:7-10.

Notably, Lemense does not compare or otherwise check consistency of any sensor’s ID, let alone between an old sensor and its replacement. Rather, the IDs in Lemense are only used to associate an interrogation result (faulty or normal) with its corresponding sensor when recorded in memory. *Id.* at 3:33-36. Thus, like Tang, Lemense also does not disclose or otherwise suggest either the “judging... consistency” or “old identification” features that resulted in allowability of the claims during the Third Reexamination.³ Indeed, Lemense discloses no more—and much less—than the Toyofuku and Nihei references previously considered by the Office in relation to the claimed consistency judgment. Unlike Toyofuku and Nihei, Lemense does not suggest any verification whatsoever of the programming of the new sensor’s ID. In other words, Lemense

³ In fact, the Third Reexamination confirmed patentability of the claims over the applied art (including Lemense) for failing to suggest or render obvious the “judging...consistency” limitation, as well as a setting apparatus wirelessly receiving the old identification from the old tire pressure detector that stores only the same. Ex-2004 at 1495-1496.

is farther removed from the allowable “judging... consistency” claim features than the previously considered Toyofuku and Nihei references.⁴

C. Overview of Matsui (Ex-1005)

Matsui is primarily relied on in the Petition for alleged teachings of the “judging... consistency” features of claims 16-19, 21, 23-25, and 29. Petition at 18, 26. Matsui is a Japanese patent application publication, and is submitted by Petitioner with an uncertified, unauthenticated and annotated machine translation. As such, Matsui should not be considered by the Board, and Petitioner has not established a reasonable likelihood of success with respect to Grounds 2 and 3 relying on Matsui. 37 C.F.R. § 42.63(b) (when relying on a non-English language document, “a translation of the document into English and an affidavit attesting to the accuracy of the translation **must** be filed with the document” (emphasis

⁴ Lemense also does not disclose the tire pressure detector features of the claims, the detector architecture as claimed, or the interaction features between the detector and the setting apparatus as claimed. Nor does Lemense disclose a setting apparatus with an input module “to enable an operator to manually input an identification to be written into the... tire pressure detector” (claims 16-19, 23, 25-28), as confirmed by the CRU during the second reexamination. Ex-2003 at 299-301, 315-316.

added)); *see also CTC Global Corporation v. TS Conductor Corp.*, PGR2022-00002, Paper 8 at 23-24 (PTAB Apr. 4, 2022) (“Having based its case on [a machine] translation, Petitioner has not met the threshold showing necessary for us to institute a trial”); *Shenzhen Aurora Technology Co., Ltd. v. Putco, Inc.*, IPR2020-00670, Paper 10 at 6 (PTAB Aug. 27, 2020) (“As... Petitioner failed to comply with the Board’s rule requiring an affidavit attesting to the accuracy of a translation, the Petition has not established a reasonable likelihood of prevailing”).

Its inadmissibility notwithstanding, the machine translation of Matsui discloses a setting device that generates and sets a unique ID for a transmitter of a tire pressure sensor. Ex-1005 at [0007], [0039]. According to the machine translation, conventional tire pressure monitoring systems communicate pressure sensor data together with a sensor (or “transmitter”) ID between the sensor and a receiver within the vehicle. *Id.* at [0002]. The receiver is able to correlate the tire pressure data with its corresponding sensor (*i.e.*, tire location) based on the transmitter ID. *Id.* at [0003]. A setting device may be used to set and register the transmitter ID in both the transmitter and receiver, but there is no way to ensure that the transmitter ID has not been previously set and registered for another sensor. *Id.* at [0006]. To address this problem, the machine translation of Matsui discloses a setting device that automatically generates a unique transmitter ID based on a unique setting device identifier. *Id.* at [0007], [0034], [0039]. The

unique transmitter ID is transmitted by the setting device to the sensor transmitter and registered therein. *Id.* at [0034]. Subsequently, the setting device “determine[s] whether or not a response has been returned from the transmitter” in order to verify the registration process. *Id.*

Notably, Matsui’s setting device does not verify the registration by judging consistency with an old sensor/transmitter ID. In fact, the Matsui solution is contrary to any consistency between sensor IDs, since its very purpose is to provide a new and unique ID to a sensor. *Id.* at [0006], [0007], [0034], [0039]. Further, Matsui makes no suggestion of the setting device receiving any ID from any sensor, let alone performing the verification based thereon. Thus, like Tang and Lemense, Matsui also does not disclose or otherwise suggest either the “judging... consistency” or “old identification” features that resulted in allowability of the claims during the Third Reexamination.

Further, the registration verification of Matsui is no different than that of the Nihei reference cited in the Autel IPR. In both cases, a setting device verifies registration of a new ID based on a feedback signal from the sensor device. As the Board recognized in the previous IPR, this teaching amounts to no more—and much less—than the Toyofuku reference previously considered by the Office in relation to the claimed consistency judgment. Ex-2005 at 21, 23, 24. The setting tools of Toyofuku, Nihei and Matsui all receive feedback from the sensor to verify

registration of the new ID. But unlike Toyofuku's feedback signal, Matsui and Nihei do not even include the new identification newly recorded in its sensor. Matsui fails to disclose the consistency judgment features of the Challenged Claims for the same reasons recognized by the Board in relation to the same disclosure in Nihei.

VI. THE BOARD SHOULD EXERCISE ITS DISCRETION TO DENY INSTITUTION UNDER § 325(d)

The Petition presents the same art and arguments that the Office previously considered yet fails to show that the Office materially erred during prosecution, including three *ex parte* reexaminations and a previous request for *inter partes* review. The Board should thus exercise its discretion under § 325(d) to deny institution when “the same or substantially the same prior art or arguments previously were presented to the Office.” 35 U.S.C. § 325(d).

In assessing whether to exercise its § 325(d) discretion to deny review, the Board applies the following two-part framework: (1) determining whether the same or substantially the same prior art or arguments previously were presented to the Office; and (2) if either condition is satisfied, determining whether the petitioner has demonstrated that the Office erred in a manner material to patentability of the challenged claims. *Advanced Bionics, LLC v. Med-El Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13,

2020) (precedential). In applying that framework, the Board is guided by the following non-exclusive factors:

(a) the similarities and material differences between the asserted art and the prior art involved during examination;

(b) the cumulative nature of the asserted art and the prior art evaluated during examination;

(c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;

(d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;

(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (precedential as to Section III.C.5, first paragraph).

“If, after review of factors (a), (b), and (d), it is determined that the same or substantially the same art or arguments previously were presented to the Office,

then factors (c), (e), and (f) relate to whether the petitioner has demonstrated a material error by the Office.” *Advanced Bionics*, Paper 6 at 10.

A. Part One of *Advanced Bionics* Framework

Under part one of the two-part framework, the Board considers whether the same or substantially same art or arguments were previously presented to the Office by reviewing *Becton, Dickinson* factors (a), (b), and (d). *Id.*

1. *Becton, Dickinson* factors (a) and (b): the Petition’s prior art is the same or cumulative of the prior art previously analyzed by the Office

The references cited in the Petition are either identical to or cumulative of the prior art previously analyzed by the Office, and do not disclose the judging consistency and old identification limitations any more so than the art of record repeatedly found lacking by the Office.

Table 1: Summary of Cumulative Prior Art

Tang	Cumulative, not cited for limitations that resulted in allowance in prior proceedings
Lemense	Considered in all three reexaminations, Autel IPR, and EDTX litigation
Matsui	Cumulative
Corniot	Considered in first reexamination and EDTX litigation

In its brief, single-paragraph analysis of the Board’s § 325(d) discretion to deny, Petitioner states:

The Office has not considered most of the prior art and all of the grounds in this Petition, which are materially different from and not cumulative of what has been considered in past EPRs. Lemense was cited during EPRs 2 and 3, but primarily used as a secondary reference with two other references since it was not recognized at that time by those requesters that Lemense was part of an identical aftermarket system composed of the Tang pressure detector and the Lemense setting tool for cloning an old sensor.

Petition at 75⁵; *see also id.* at 6 (instant grounds differ because Tang and Lemense “form [a] single aftermarket TPMS replacement system”). Petitioner, however, does not explain or identify any material differences between the art and grounds in this Petition and those of the previous Petition and reexaminations. For example, Petitioner does not explain why the “single aftermarket” Tang-Lemense system is materially different from that of Nihei, Toyofuku and the previously-considered art, where obviousness in combining the art to yield “a single system embodiment,” Petition at 17, was not in dispute or germane to patentability.

⁵ Lemense was also submitted and “CONSIDERED” by the CRU during the first reexamination. Ex-2002 at 381.

Whether considered as “part of an identical aftermarket system” or separately, the Tang and Lemense references add nothing materially different from the art of record. Both still fail to show the “judging... consistency” and “old identification” limitations deemed missing from the art of record, for the same reasons repeatedly identified by the Office—and unaddressed by the Petition—in confirming patentability of the Challenged Claims. *See infra* Section VII.B-C.

In further detail, the CRU in the Third Reexamination rejected all of the previously presented independent claims based on the combined teachings of Taguchi, Nantz, and Toyofuku. Ex-2004 at 1374-1376. Those claims differed from the Challenged Claims only with respect to the “judging... consistency” (claims 16, 18, 23) and “old identification” (claims 26-28) limitations subsequently added. *Compare* Ex-2003 at 364-365 *with* Ex-2004 at 1508-1509. Thus, as relates to all but these two claim limitations, Petitioner has not identified any material differences between the Petition’s art and the art of record. Likewise, for the two material limitations relied on for allowance, Petitioner also points to nothing new.

First, with respect to the “old identification” limitation of claims 26-28, Ground 1 does not cite to any portion of any reference. Instead, Petitioner offers only unsupported attorney argument that “[t]ypically, an OEM tire pressure sensor (that is ‘the old tire pressure detector’) has only the ID programmed into it as part of the factory installation.” Petition at 63, 66. Accordingly, the Petition does not

rely on any non-cumulative or materially different prior art in its conclusory and deficient analysis for the “old identification” claim element.

**Table 2: Cumulative Art for “Old Identification” Limitations
(Ground 1, Claims 26-28)**

Proceeding	Cited Art	Cited Teaching in Art	Deficiency in Art
Third Reexamination	Nantz	[0030] : “a bank of TPM sensor IDS is stored in the memory of TPM sensor 104” (Ex-2004 at 1481)	• No storing of only old ID
Autel IPR	Nantz	[0030] : “a bank of TPM sensor IDS is stored in the memory of TPM sensor 104” (Ex-2005 at 17-18)	• No storing of only old ID
Instant IPR	None	None (Petition at 63,66)	• No storing of only old ID

Second, with respect to the claimed consistency judgment (claims 16-19, 21, 23-25, and 29), the Petition also fails to cite to materially different prior art.

Grounds 2 and 3 apply the Lemense reference and its interrogation process by which a service tool receives a signal including a sensor ID from a sensor unit and verifies proper functioning based thereon. Petition at 46-49. These teachings of

Lemense are cumulative of Toyofuku's previously-cited verification process, which similarly discloses a service tool ("dedicated writing device 4") that writes an old ID into a new sensor and receives a response signal including the ID to verify completion of the input, and which similarly lacks a consistency check for the ID. Ex-2004 at 1496 (quoting Toyofuku (Ex-2008) at 5:58-67). In fact, Lemense is further removed from the claims because, unlike Toyofuku, it does not verify input of the ID but only verifies the sensor's pressure measurement function. *See infra* Section VII.C (citing Ex-1004, 3:17-36).

Grounds 2 and 3 also apply Matsui "[i]n the alternative," Petition at 50-51, but it too is cumulative of Toyofuku (and Nihei) as relates to the judging consistency claim element. Matsui is specifically relied on for its disclosure of a setting device that registers a new ID in a sensor and "determine[s] whether or not a response has been returned" to confirm and complete the registration. Petition at 51 (quoting Ex-1005 at [0034]). This is not materially different from Toyofuku's relevant disclosure, described above, nor is it different from the Autel IPR's applied art that taught the same ID input verification based on a feedback signal. Ex-2005 at 18 ("Both Nihei and Toyofuku disclose that, after the new identification is written in the memory of a tire pressure detector, the tire pressure detector sends back a signal verifying that the new identification has been successfully stored in memory.") (IPR2021-01545, Petition (Paper 1) at 23). Thus,

the Petition relies on Lemense and Matsui to allege obviousness of the judging consistency claim feature in the same manner as was previously considered and deemed lacking during the Third Reexamination and the Autel IPR.

**Table 3: Cumulative Art for “Judging... Consistency” Limitations
(Grounds 2 & 3, Claims 16-19, 21, 23-25, and 29)**

Proceeding	Cited Art	Cited Teaching in Art	Deficiency in Art
Third Reexamination	Toyofuku	5:58-67 : service tool writes an old ID into a new sensor and receives a response signal including the ID to verify completion of the input (Ex-2004 at 1496)	• Verification does not include a consistency check
Autel IPR	Nihei	[0045], [0066] : service tool writes ID into a new sensor and receives a response signal to verify completion of the input (Ex-2005 at 18)	• Verification does not include a consistency check
Instant IPR	Lemense	3:14-37 : service tool writes an old ID into a new sensor and receives signals to verify proper pressure sensing function	• Verification does not include a consistency check

		(Petition at 46-49)	• No verification of ID input
Instant IPR	Matsui	[0034] : service tool writes unique ID into a new sensor and receives a response signal to verify completion of the input (Petition at 50-51)	• Verification does not include a consistency check • No ID included in feedback signal

The Petition’s prior art teaches no more than the art substantively analyzed and applied throughout original examination, three reexaminations, and a previous *inter partes* review.

2. *Becton, Dickinson* factor (d): substantially the same arguments presented by Petitioner and made herein by Patent Owner were previously before the Office

The Third Reexamination and the Autel IPR addressed substantially the same arguments and issues presented by Petitioner here.

As noted above, the patentability of claims 16-19, 21, 23-25, and 29 (Grounds 2 and 3) during the Third Reexamination was based on the consistency judgment claim feature (“judging, by the setting apparatus, consistency of the update identification newly recorded in the rewritable memory unit and the old identification of the old tire pressure detector”). Ex-2004 at 1496. The Petition

addresses this claim feature using Lemense and Matsui, Petition at 46-51, but repeats the same arguments that the CRU and the Board previously considered and resolved in Patent Owner's favor.

Specifically, Petitioner cites to Lemense's interrogation process and explains:

Since the sensor being interrogated transmits its sensor ID and the service re-interrogates the sensor, it is deemed that the service tool of Lemense "judges the consistency" of the IDs since the service tool itself sent the ID that was programmed into the sensor.

Petition at 49-50. In other words, according to Petitioner, because Lemense discloses a service tool that both sets a sensor's ID and then receives a signal including that ID to confirm the sensor's functionality, this means that the service tool checks consistency of the ID. But this is no more than what Toyofuku was previously argued as disclosing, and what the Office repeatedly found fails to teach a consistency judgment. Ex-2004 at 1496 ("Although the dedicated writing device 4 verifies the signal (which is based upon completion of inputting the data),... [t]he teachings do not [show] that the writing device judges the consistency of the update [identification] newly recorded in the rewritable memory unit and the old identification of the old tire pressure detector"); EX-2005 at 21 ("These passages, including their express disclosures of sending the setting device a signal 'to the

effect that the new ID has been stored and held in the memory 34,' facially do not disclose the judging consistency limitation...”).

Petitioner replicates these arguments with Matsui, and its cumulative disclosure of a setting device that registers a new ID in a sensor and “determine[s] whether or not a response has been returned” to confirm and complete the registration. Petition at 50-51 (quoting Ex-1005 at [0034]). According to Petitioner:

It would have been obvious to use the setting process of Matsui in the system of Tang/Lemense since ***checking to see that the ID has been correctly programmed*** is an important final step to ensure correct operation of the overall system, otherwise, the controller in the automobile will not be able to recognize the new sensor (since it will not receive the correct ID from the new sensor). As stated above, a POSA or even laymen will naturally check to see that an ID set by wireless means has been correctly received; for example, checking a new WiFi password that you have programmed into your router to see if the new password that you set has been properly received by the router.

Petition at 51 (emphasis added). In other words, Petitioner relies on Matsui’s response signal for verifying correct input of a sensor ID, but this is no different than the previous analysis considered and deemed unavailing by the CRU and the Board. For example, in the Autel IPR, the petitioner argued:

[I]t follows that a [person of ordinary skill in the art] also would understand that, ***in order to verify that the tire pressure detector received the update identification and correctly “stored and held” the new identification in memory***, the setting apparatus would need to compare the newly recorded identification sent by the tire pressure detector (transmitter 16) in the feedback signal with the update identification initially sent by the setting apparatus to the tire pressure detector, and verify that the two identifications are consistent.

Ex-2005 at 21-22 (quoting IPR2021-01545, Paper (Petition) at 43-44) (emphasis added).

Thus, Petitioner’s argument that verifying correct input of a sensor ID teaches a consistency judgment has already been raised, multiple times, and rejected by the Office. The Office has repeatedly found that, although the prior art teaches a setting apparatus receiving a feedback signal for verifying input of an ID to a new sensor, a consistency judgment is not suggested by this conventional verification. Ex-2004 at 1496; EX-2005 at 21. Petitioner offers no new analysis, and its “general arguments fail to demonstrate any substantial difference between the prior art cited in the Petition and the prior art [previously cited].” Ex-2005 at 22.

Further, as discussed in Section II.B above, the allowability of claims 26-28 (Ground 1) was based on the added requirement that the setting apparatus wirelessly receive, as the update identification, the old identification from the old

tire pressure detector ***that stores only the same***. Ex-2004 at 1480-1482, 1495.

Petitioner cites to Tang generally for the tire pressure detector claim elements, but does not provide any evidence or identify any teaching in the art for the claimed storage of “only the old identification.” Petition at 63, 66. Petitioner instead offers only a bare allegation that this feature was “[t]ypically” known in the art. *Id.*

Petitioner’s unsupported attorney argument is no substitute for objective evidence and cannot establish a reasonable likelihood of unpatentability. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1581 (Fed. Cir. 1989) (“Attorneys’ argument is no substitute for evidence.”); *Enzo Biochem v. Gen-Probe, Inc.*, 424 F.3d 1276, 1284 (Fed. Circ. 2005) (“Attorney argument is no substitute for evidence.”); *see also* Manual of Patent Examining Procedure § 2145 (“Attorney argument is not evidence unless it is an admission, in which case, an examiner may use the admission in making a rejection.”).

Finally, the Petition includes a supporting expert Declaration of Dr. Qingfeng Tang (Ex-1007), which addresses the judging consistency claim feature:

As we stated in Lemense, the newly-programmed sensor is interrogated by the service tool and then the newly-programmed sensor responds with its information (sending its pressure signals as well as its ID since all transmissions include the sensor ID as well as the measured conditions). During this transmission by the newly programmed sensor, the service tool of Lemense sees the ID and whether it is the same as

the code that was programmed into the sensor. In general, the service technician determines to reprogram the sensor if the code is incorrect after this interrogation following programming. This is because the service technician will also check the vehicle TPMS controller to ensure that the newly-programmed sensor is being read by the vehicle controller. Since the vehicle controller is not reprogrammed, it will only recognize the old ID from the old sensor. Therefore, every tire repair technician will, as a matter of shop protocol, ensure that the entire system is working before returning the vehicle to the customer.

Petition at 50 (quoting Ex-1007 at 11). Dr. Tang further testifies:

As discussed above, in the programming/sensor replacement process, checking the wirelessly-programmed ID to determine that the sensor has received the correct ID code and is transmitting this ID, followed by reprogramming if the correct ID is not returned is a standard industry practice. Therefore, the use of the process in Matsui in our Tang/Lemense aftermarket system to “judge the consistency” of the IDs would have been at least obvious within the meaning of 35 U.S.C. 103 since we explained that checking the programming after the ID has been copied into the blank sensor is something that the tire repair technician should do as a final check.

EX-1007 at 13.

Dr. Tang’s testimony that Lemense’s service tool performs a consistency check as a standard industry practice has no basis in the record. Dr. Tang does not cite to the references or to any evidence (objective or otherwise) as to how or why

the consistency judgment claim element is present in Lemense, Matsui, or as a standard industry practice. For example, Dr. Tang provides no citation or support for his false claim that “the service tool of Lemense sees the ID and whether it is the same as the code that was programmed into the sensor.” Ex-1007 at 11. His testimony therefore adds nothing new to the record and, anyway, is entitled to no weight. 37 C.F.R. § 42.65(a); Ex-2005 at 22 (“Dr. Bagherzadeh does not cite any objective support that would give his testimony persuasive weight”); *see also K/S Himpp v. Hear-Wear Techs., LLC*, 751 F.3d 1362, 1365 (Fed. Cir. 2014) (“in an obviousness analysis, conclusory assertions from a third party about general knowledge in the art cannot, without supporting evidence of record, supply a limitation that is not evidently and indisputably within the common knowledge of those skilled in the art”) (cited by Consolidated Trial Practice Guide (Nov. 2019) at 36).

B. Part Two of *Advanced Bionics* Framework

Under part two of the *Advanced Bionics* framework, the Board considers *Becton, Dickinson* factors (c), (e), and (f) to determine “whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims.” *Advanced Bionics*, Paper 6 at 8. Petitioner makes no attempt to demonstrate material error by the Office. Petition at 75.

1. *Becton, Dickinson* factor (c): the Petition's asserted art was evaluated during examination

The Lemense reference was previously before the Office and applied against the claims during the Third Reexamination (Ex-2004 at 18-19) and the Autel IPR (Ex-2005 at 11). Tang and Matsui, meanwhile, are cumulative of the art expressly evaluated during reexamination. *Supra* Section VI.A.

For example, as relates to the consistency judgment feature that led to the allowance of claims 16-19, 21, 23-25, and 29, Lemense's interrogation feedback and Matsui's response signal and verification teach no more than Toyofuku's and Nihei's verification. The Office evaluated these teachings and addressed their deficiencies on multiple occasions. *Supra* Section VI.A.

Additionally, as relates to the features that resulted in the allowability of claims 26-28, the Petition offers no citation to the art or objective support. *Supra* Section VI.A.

2. *Becton, Dickinson* factors (e) and (f): the Petition does not point out how the CRU Examiners erred or why the evidence and facts of the Petition warrant reconsideration

Where a substantially similar reference was previously before the Office, Petitioner bears the burden of showing how the Examiners erred in their consideration of that reference. *See Juniper Networks, Inc. v. Mobile Telecomms.*

Techs., LLC, IPR2017-00642, Paper 31 at 10-11 n.6, 19-20 (PTAB Mar. 14, 2018) (collecting cases).

As the Board explained in *Juniper Networks*:

Consistent with the Office’s need to provide streamlined examination and to utilize Office resources effectively, a petitioner must articulate error in the Examiner’s evaluation of the previously considered prior art.” *Id.* at 19-20. The Petition makes no attempt to carry that burden. [Petitioner] does not acknowledge that its references and arguments were previously before the Examiner, much less attempt to argue that the Examiner erred in considering them. This is sufficient basis to deny [the] Petition.

Id.; see also, *Hengdian Grp. DMEGC Magnetics Co., v. Hitachi Metals, Ltd.*, IPR2017-01313, Paper 9 at 5-6 (PTAB Dec. 21, 2017).

Like in *Juniper Networks*, the instant Petition makes no attempt to carry Petitioner’s burden of articulating error in the Office’s previous examinations. For example, the Petition summarizes the prosecution history and acknowledges that the claims were allowed over Toyofuku based on the judging consistency claim element, but does not dispute these findings. Petition at 16. Rather than point to any errors in the Office’s reasoning that an ID input verification does not teach a consistency check, the Petition recycles the same arguments and analysis using cumulative prior art teachings that have already been resolved by the Office more than once. See discussion *supra* Section VI.A.

Further, the Petition's one-paragraph § 325(d) discussion is completely devoid of any substantive analysis of the *Becton, Dickinson* factors and does not provide any reason as to why the Board should reconsider the Office's analysis of the prior art. In this regard, the Petition's references to foreign proceedings involving a Taiwanese patent are inapposite. Petition at 7, 75-79.

First, contrary to Petitioner's allegations otherwise, the Taiwan patent claims were not "finally invalidated as of January 24, 2024 when Orange's appeal was denied." Petition at 7. Patent Owner's appeal to the Supreme Administrative Court was accepted on April 24, 2024 and is pending. Ex-2010 at 5.

Second, Petitioner requests "that the invalidation by the TIPO should be considered in this IPR request," Petition at 76, but provides no direction as to how the Taiwan decision should be considered here. At most, Petitioner states that "analogous claims in [the] Taiwan patent to Orange were held unpatentable by [TIPO] using an analysis similar to that provided above and particularly citing *Lemense and Corniot*." Petition at 75. But Petitioner does not cite to any evidence or provide any explanation showing that the Taiwan claims are analogous or that the Taiwan decisions used an analysis similar to Petitioner's. For example, the Taiwan patent claim 1 reproduced in the Petition does not include the judging consistency or old identification claim limitations that resulted in allowance of the Challenged Claims. Petition at 77. Further, the translation of the invalidation

opinion (Ex-1009) submitted with the petition is not certified (and therefore inadmissible, 37 C.F.R. § 42.63(b)), and is only generally referenced in the Petition without any specific citations or analysis. The translation indicates that the references applied in the Taiwan proceeding differ from those in the instant proceeding. *See, e.g.*, Ex-1009 at 70-71 (Tang and Matsui are not considered, while numerous other references are applied). Petitioner does not show how the Taiwan decision discredits or otherwise renders the Office's reasoned findings erroneous.

For the reasons set forth above, the Board should decline to institute review of the Challenged Claims based on the same or substantially same art and arguments previously considered by the Office. *See Unified Patents Inc., v. John L. Berman*, IPR2016-01571, Paper 10 at 12 (PTAB Dec. 14, 2016).

VII. THE BOARD SHOULD DENY INSTITUTION ON THE MERITS FOR ALL GROUNDS

In addition to the procedural defects, the Petition also fails on the merits for at least the same reasons reached by the Office during the Third Reexamination and the Autel IPR request, which are unaddressed by the Petition. Namely, the teachings of Lemense and Matsui do not render obvious claims 16-19, 21, 23-25, and 29's consistency judgment, and the combined teachings of Tang and Lemense do not render obvious claims 26-28's old identification received from the old tire

pressure detector that stores only the same. Ex-2004 at 1495-1496, Ex-2005 at 21, 23, 24.

A. The Petition has failed to establish a reasonable likelihood of prevailing on Ground 1⁶ for Claims 26-28 because the references fail to teach a setting apparatus wirelessly receiving the old identification from the old tire pressure detector that “stores only the old identification”

Independent claim 26 recites a setting apparatus configured to:

obtain an update identification to be written into a new identification rewriteable tire pressure detector either by (1) receiving the RF signal from an old tire pressure detector by the receiving module, retrieving an old identification of the old tire pressure detector from the RF signal, and using the old identification as the update identification, or by (2) receiving a manual input of the identification from the input module, and using the identification as the update identification, **wherein the old tire pressure detector stores only the old identification.**

Independent claims 27 and 28 similarly include features directed to the setting apparatus receiving the old identification from the old tire pressure detector, which stores **only** the old identification.

⁶ “**Ground 1:** The Tang/Lemense system renders obvious claims 26, 27, and 28 under 35 U.S.C. 103.” Petition at 18.

As discussed in Section II.B, claims 26-28 were allowed over the prior art based on this feature. Previously, the Office cited to Nantz's disclosure of a setting apparatus (immobilizer 102) that receives, as the update identification, the old identification from the old tire pressure detector (TPM sensor 104):

(1) receiving the RF signal from an old tire pressure detector by the receiving module, retrieving an old identification of the old tire pressure detector from the RF signal, and using the old identification as the update identification,

Nantz discloses immobilizer 102 may read the ID of the damage TPM sensor and transmit an LF signal containing the ID of the damage sensors to a replacement TPM sensors 104. The ID of the damaged TPM sensors may be read as a result of a signal that is transmitted from the damaged TPM sensor to immobilizer 102. See paragraphs [0029-0030]. See also paragraphs [0014-0015].

(Ex-2004 at 1379)

Patent Owner distinguished claims 26-28 by specifying that the old tire pressure detector stores **only** the old identification. Conversely, Nantz discloses its old detector (TPM sensor 104) storing plural IDs, as explained by Patent Owner and cited by the CRU Examiners in allowing the claims during the Third Reexamination. Ex-2004 at 1481 (citing Nantz (Ex-2007) at ¶ [0030]) and 1495.

The Petition does not cure or otherwise address this recognized deficiency in the art. In fact, the Petition does not cite to any reference or evidence for a prior art teaching of the old tire pressure detector storing **only** the old identification, as

required by claims 26-29. Petitioner instead offers only a single statement that “[t]ypically, an OEM tire pressure sensor (that is ‘the old tire pressure detector’) has only the ID programmed into it as part of the factory installation.” Petition at 63, 66. This unsupported and conclusory attorney argument does not satisfy Petitioner’s burden of establishing a reasonable likelihood that the prior art discloses or renders obvious each and every element of claims 26-28. *Enzo Biochem*, 424 F.3d at 1284 (“Attorney argument is no substitute for evidence.”).

Nevertheless, the Petition’s conclusory attorney argument is contradicted by the record. Claims 26-28 were allowed in the Third Reexamination and the Autel IPR based on Nantz’s disclosure that a tire pressure sensor stores a plurality of sensor IDs:

With respect to Nantz, the Patent Owner states that in paragraph [0030], Nantz explicitly teaches that “a bank of TPM sensor IDs is stored in the memory of TPM sensor 104, immobilizer 102 or another module that interfaces with immobilizer 102”. The Patent Owner argues that none were in Nantz does it disclose the TPM sensor 04 storing only one ID.

With respect to Toyofuku, the Patent Owner argues that the ID is manually input through wire communication and thus Toyofuku does not disclose that the external signal (which is used to transmit the update identification) is a low frequency signal.

The examiner notes that although Toyofuku discloses a wire communication, low frequency signals are disclosed by Nantz, Nonetheless, in view of the above comments, upon review of all of the arguments presented by the Patent Owner, the examiner finds the arguments persuasive. The examiner notes that the Patent Owner provides the same arguments with respect to new claims 27 and 28.

(EX-2004 at 1495)

Thus, the record at best suggests that conventional tire pressure sensors stored plural IDs, contrary to the Petition's attorney argument otherwise. The Petition does not acknowledge or address this argued distinction and resulting finding of patentability by the Office in both the Third Reexamination and the Autel IPR.

Further, the Petition otherwise relies on Tang for an alleged teaching of the claimed detector ID elsewhere in the claim. Petition at 45. Tang, however, omits any mention of an ID or identification of the tire pressure sensor. Nevertheless, the Petition alleges that Tang's manufacturers' codes teach the claimed detector ID. Petition at 45. Petitioner and its expert declarant are incorrect; there is no suggestion in Tang that its manufacturers' codes include a detector ID.⁷ To the

⁷ The Petition's reliance on Tang's manufacturers' codes for a teaching of the detector identification code is itself erroneous, as is Dr. Tang's testimony (Ex-1007 at 6) that Tang's manufacturing codes are "identical" to Lemense's sensor ID codes. Dr. Tang's unsupported testimony is plainly contradicted by the Tang reference, where the manufacturing codes are used to identify signaling formats of different manufacturers, and not to identify the sensor. EX-1002, 4:21-32. The Tang reference never suggests or implies that its manufacturing codes are sensor identifiers or any other sensor data. In fact, during prosecution of the

contrary, the manufacturers' codes instead only define a signaling format for data transmitted by the sensor.

Moreover, even assuming *arguendo* that the manufacturer code is a sensor ID, as alleged by the Petition, Tang purposefully stores a ***plurality*** of manufacturers' codes for different car brands or tire pressure monitoring systems, in order to provide a ***universal*** sensor that reduces installation complexity. Ex-1002 at 4:21-32, 6:16-34. The Petition therefore fails to establish a prior art teaching of a tire pressure detector storing only its identification. Ground 1 must fail.

Tang reference, the applicant explicitly distinguished its manufacturing codes that "each comprise a format of data" from the sensor data itself. Ex-2011 at 2. Dr. Tang's inaccurate characterizations of the art, as well as his bare testimony unsupported by any objective evidence, renders his testimony unreliable and should not be given weight.

B. The Petition has failed to establish a reasonable likelihood of prevailing on Ground 2⁸ for Claims 16, 18, 21, 23-24 and 29 because the references fail to teach “judging, by the setting apparatus, consistency of the update identification newly recorded in the rewriteable memory unit and the old identification of the old tire pressure detector”

Independent claims 16, 18, and 23 each recite “judging, by the setting apparatus, consistency of the update identification newly recorded in the rewritable memory unit and the old identification of the old tire pressure detector.”⁹ In other words, after sending the old tire pressure detector’s “old identification” as an update identification for a new tire pressure detector, the setting apparatus per the claims receives a signal from the new tire pressure detector that includes the update identification. The setting apparatus then ***judges consistency of this update identification with the old identification to “verify the update identification.”***

⁸ “**Ground 2:** The Tang/Lemense system renders obvious claims 16, 18, 21, 23, 24, and 29 under 35 U.S.C. 103 with Matsui further explaining what is involved in ‘judging consistency’ of a newly-written ID with an old (copied ID).”

Petition at 18.

⁹ Claims 21, 24 and 29 depend from claim 23 and therefore also require the consistency judgment feature.

For an alleged teaching of this judging consistency limitation, Petitioner relies on both Lemense and Matsui. Petition at 42-52. The Office previously applied and considered the Lemense reference during the Third Reexamination, which determined the Challenged Claims as allowable based on the consistency judgement. To this end, the Office repeatedly found that, although the prior art teaches a setting apparatus receiving a feedback signal for verifying input of an ID to a new sensor, a consistency judgment is not considered in the conventional verification. Ex-2004 at 1496 (“Although the dedicated writing device 4 verifies the signal (which is based upon completion of inputting the data),... [t]he teachings do not [show] that the writing device judges the consistency of the update [identification] newly recorded in the rewritable memory unit and the old identification of the old tire pressure detector”); EX-2005 at 21 (“These passages, including their express disclosures of sending the setting device a signal ‘to the effect that the new ID has been stored and held in the memory 34,’ facially do not disclose the judging consistency limitation...”).

The Petition does not address these prior findings, or provide any explanation as to how Lemense and Matsui differ from the conventional verification and cure its established deficiency, *i.e.*, failure to incorporate a consistency judgment. In fact, Lemense and Matsui disclose much less than the art of record, and are further removed from the claimed consistency-based

verification. For example, Lemense does not even verify a newly recorded ID, and Matsui merely receives an acknowledgment feedback signal that omits any ID.

See supra Section V.B-C. A check on consistency is never suggested.

Petitioner, nevertheless, points to Lemense's interrogation process by which a service tool 24 receives a tire pressure measurement from a sensor unit and compares it against an expected value to test proper functioning of the sensor. Petition at 49 (quoting Ex-1004 at 3:14-37). According to Petitioner, "[s]ince the sensor being interrogated transmits its sensor ID and the service tool re-interrogates the sensor, it is deemed that the service tool of Lemense 'judges the consistency' of the IDs since the service tool itself sent the ID that was programmed into the sensor." Petition at 49-50. Petitioner provides no explanation or objective evidence as to why its service tool's sensor interrogation would also verify consistency with an old ID simply because the service tool previously programmed the sensor's ID. As described above, *supra* Section V.B, Lemense's interrogation only verifies the sensor's pressure measurement functionality, and not its ID:

An overall method of tire servicing according to the present invention is shown in FIG. 4. In order to establish a known pressure condition for testing a sensor unit, ***a full (i.e., high) pressure is established*** in a tire or tires to be serviced in step 40. The sensor unit(s) is (are) interrogated in step 41 using the service tool to send a wake-up command and to

receive a data signal and ID code from each sensor unit involved in the tire replacement or repair. ***By comparing the data signal (i.e., pressure measurement or pressure range indication) with that expected in view of the full pressure present in the tire***, the result of each interrogation can be classified by the service tool as a nominal result of a faulted result. ***A below normal (i.e., low) pressure is established*** in the tire or tires being serviced in step 42. The sensor unit(s) ***is (are) re-interrogated in step 41 again using the service tool*** and the result(s) of the re-interrogation(s) are classified. In step 44, the nominal or faulted results are recorded in memory by the service tool along with the respective ID codes and wheel locations (i.e., left-front, right-front, left-rear, right-rear).

EX-1004, 3:17-36 (emphasis added). While Lemense's service tool judges consistency of a measured pressure of a tire in a known pressure state (i.e., "full" and "low") with an expected pressure for that state, consistency or any verification ***of the ID*** is not contemplated. *Id.* The ID, instead, is used only for recording the results of the pressure measurement interrogation ("nominal" or "faulted"). *Id.*; *see also id.* at Abstract. Petitioner's conclusory analysis fails to show that judging consistency as claimed is taught by Lemense.

Accordingly, the Petition attempts to supplement the deficient disclosure of Lemense with an expert Declaration (Ex-1007) from one of Lemense's inventors, Dr. Qingfeng Tang, who states:

As we stated in Lemense, the newly-programmed sensor is interrogated by the service tool and then the newly-programmed sensor responds with its information (sending its pressure signals as well as its ID since all transmissions include the sensor ID as well as the measured conditions). ***During this transmission by the newly programmed sensor, the service tool of Lemense sees the ID and whether it is the same as the code that was programmed into the sensor. In general, the service technician determines to reprogram the sensor if the code is incorrect after this interrogation following programming. This is because the service technician will also check the vehicle TPMS controller to ensure that the newly-programmed sensor is being read by the vehicle controller. Since the vehicle controller is not reprogrammed, it will only recognize the old ID from the old sensor. Therefore, every tire repair technician will, as a matter of shop protocol, ensure that the entire system is working before returning the vehicle to the customer.***

Petition at 50 (quoting Ex-1007 at 11) (emphasis added). The above-emphasized descriptions in Dr. Tang's testimony are not found in the entirety of Lemense. For example, Lemense does not disclose that its service tool "sees the ID and whether it is the same as the code that was programmed into the sensor." Dr. Tang does not cite to the reference or to any evidence (objective or otherwise) as to how or why

the consistency judgment claim element is expressly or necessarily¹⁰ present in Lemense. His testimony therefore fails to cure Lemense's deficiencies and, anyway, is entitled to no weight. 37 C.F.R. § 42.65(a); *see also* Consolidated Trial Practice Guide (Nov. 2019) at 36 ("a petitioner... cannot rely on its expert to supply disclosure of a claim element that is not expressly or inherently present in the reference" and "expert testimony cannot take the place of disclosure from patents or printed publications."); *Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 at 15-16 (PTAB Aug. 24, 2022) (precedential) (Expert declaration given no weight because "does not cite to any additional supporting evidence or provide any technical reasoning in support," and cannot "supply a limitation missing from the prior art."); *Upjohn Co. v. Mova Pharm. Corp.*, 225 F.3d 1306, 1311 (Fed. Cir.

¹⁰ *See In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) ("To establish inherency, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." (internal citations omitted)).

2000) (“Lack of factual support for expert opinion to factual determinations, however, may render the testimony of little probative value in a validity determination.”).

Perhaps recognizing that Lemense does not teach the judging consistency limitation, Petitioner next presents the disclosure of Matsui “[i]n the alternative” to Lemense for the judging consistency limitation. Petition at 50. As an initial point, Petitioner has not submitted an authenticated or certified translation of Matsui, but cites to an uncertified machine translation. Matsui, therefore, cannot be considered in this proceeding. 37 C.F.R. § 42.63(b).

Matsui anyway does not cure Lemense’s deficiencies, and does not suggest a consistency judgment. In fact, Matsui does not even include a sensor ID in the signal returned to its setting device to allow for a consistency check. *See supra* Section V.C.

According to Petitioner, “Matsui teaches that, when a new ID (TID) is programmed into a tire pressure monitor by a setting tool, the setting tool checks the sensor and if there is not a response based on that ID, the setting process terminates and a new setting process is initiated.” Petition at 50-51 (citing Ex-1005 at [0034]). In relevant part, Matsui discloses:

Next, in step 80, the generated transmitter identifier TID is transmitted and set to the transmitter 4. Then, in the determination step 82, ***it is***

determined whether or not a response has been returned from the transmitter 4. If it does not return, a registration process failure message is displayed in step 88 and the setting process is terminated.

EX-1005 at [0034] (emphasis added). Matsui’s disclosure of determining whether a response is received plainly does not teach that the response includes an ID, let alone that the ID is checked for consistency against an old ID. That is, Matsui discloses “determining whether... a response has been returned,” NOT determining whether an ID included in the response is consistent.

As with the Lemense, the Petition again relies on unsupported testimony from Dr. Tang:

As discussed above, in the programming/sensor replacement process, checking the wirelessly-programmed ID to determine that the sensor has received the correct ID code and is transmitting this ID, followed by reprogramming if the correct ID is not returned ***is a standard industry practice***. Therefore, the use of the process in Matsui in our Tang/Lemense aftermarket system to “judge the consistency” of the IDs would have been at least obvious within the meaning of 35 U.S.C. 103 since we explained that checking the programming after the ID has been copied into the blank sensor is something that the tire repair technician should do as a final check.

EX-1007 at 13 (emphasis added). Petitioner, Dr. Tang, and the record as a whole provide no source or evidence showing that a consistency judgment was either

known or “a standard industry practice.” Petitioner’s attempts to supplement the deficient disclosures of the prior art with an unsupported narrative from its retained expert is impermissible and fails to show a reasonable likelihood of invalidity. 37 C.F.R. § 42.65(a); *see also K/S Himpp*, 751 F.3d at 1365 (“in an obviousness analysis, conclusory assertions from a third party about general knowledge in the art cannot, without supporting evidence of record, supply a limitation that is not evidently and indisputably within the common knowledge of those skilled in the art”) (cited by Consolidated Trial Practice Guide (Nov. 2019) at 36).

In sum, the Petition fails to show that Lemense and Matsui, alone or in combination, discloses judging consistency as recited in the claims. Lemense does not verify an ID newly recorded in a sensor at all, let alone by judging consistency with an old ID. Meanwhile, although Matsui’s setting device does verify the new ID recorded in a sensor, it does so only by receiving a response signal. Lemense and Matsui therefore disclose no more than the Toyofuku and Nihei references applied and considered before it, and fail to invalidate the claims for at least the same reasons. Namely, although Lemense receives a signal including the sensor’s new ID (just like Toyofuku and Nihei) and Matsui receives a signal to verify completion of inputting an ID (just like Toyofuku and Nihei), “[t]he teachings do not [show] that the writing device judges the consistency of the update [identification] newly recorded in the rewritable memory unit and the old

identification of the old tire pressure detector.” Ex-2004 at 1496. Ground 2 must therefore fail.

C. The Petition has failed to establish a reasonable likelihood of prevailing on Ground 3¹¹ for Claims 17, 19, and 25 because Corniot does not cure the deficiencies of Ground 2

Ground 3 is directed to claims 17, 19, and 25, which depend respectively from claims 16, 18, and 23. As the Petition has failed to establish a reasonable likelihood of prevailing on Ground 2 for claims 16, 18, and 23, and as Ground 3 is not relied upon to cure the noted deficiencies of Ground 2, Ground 3 is flawed for at least the same reasons.

VIII. CONCLUSION

For at least the foregoing reasons, Petitioner fails to establish a reasonable likelihood of success with regard to Grounds 1-3. Therefore, the Petition should be denied in its entirety.

¹¹ “**Ground 3:** Claims 17, 19, and 25 are rendered obvious by the Tang/Lemense system with Matsui further explaining what is involved in ‘judging consistency’ of an ID written into the sensor with Corniot demonstrating... a bar code scanner.” Petition at 18.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Patent Owner hereby certifies that the present paper contains 11,423 words (as counted by the “Word Count” feature of Microsoft Word™). This word count excludes the table of contents, table of authorities, table of exhibits, certificate of word count, and certificate of service.

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the attached Patent Owner Preliminary Response is being served by electronic mail on the following counsel of record:

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Date: August 13, 2024