

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

---

**MEMS TECHNOLOGY BERHAD,**  
*Appellant,*

v.

**INTERNATIONAL TRADE COMMISSION,**  
*Appellee,*

and

**KNOWLES ELECTRONICS LLC,**  
*Intervenor.*

---

2010-1018

---

On appeal from the United States International Trade  
Commission in Investigation No. 337-TA-629.

---

Decided: June 3, 2011

---

THOMAS J. FISHER, Oblon, Spivak, McClelland, Maier  
& Neustadt, L.L.P., of Alexandria, Virginia, argued for  
appellant. With him on the brief were RICHARD D. KELLY,  
BARRY J. HERMAN, ERIC W. SCHWEIBENZ and ROBERT C.  
NISSEN.

MICHAEL LIBERMAN, Attorney, Office of the General Counsel, United States International Trade Commission, of Washington, DC, argued for appellee. With him on the brief were JAMES M. LYONS, General Counsel, and ANDREA C. CASSON, Assistant General Counsel.

ALLAN J. STENSTEIN, Dykema Gossett, PLLC, of Chicago, Illinois, argued for intervenor. With him on the brief were TIMOTHY K. SENDEK; and DAVID L. PATTERSON, and WILLIAM D. CRAMER, of Dallas, Texas.

---

Before LOURIE, MAYER, and GAJARSA, *Circuit Judges*.

LOURIE, *Circuit Judge*.

MEMS Technology Berhad (“MemsTech”) appeals from a final determination by the United States International Trade Commission that the importation and sale of certain silicon microphone packages violated § 337 of the Tariff Act of 1930 as amended, 19 U.S.C § 1337. The Commission determined that MemsTech’s accused products infringe the asserted claims of U.S. Patents 7,242,089 and 6,781,231 (the “089” and “231” patents) and that the asserted claims are not invalid under 35 U.S.C. § 102 or § 103 for anticipation or obviousness. We affirm.

#### BACKGROUND

Knowles Electronics LLC (“Knowles”) owns the ’089 and ’231 patents, which pertain to microelectromechanical system (“MEMS”) packages comprising a substrate, a cover, and a microphone (also termed a transducer). ’089 patent col.1 ll.49-50; ’231 patent col.1 ll.40-41. MEMS microphone packages are used in a variety of consumer electronic devices, including mobile phones.

The '089 patent discloses MEMS packages that allow acoustic energy to contact a transducer while protecting the transducer from light, electromagnetic radiation, and physical damage. '089 patent col.1 ll.44-49. The MEMS packages of the '089 patent include a volume defined by the transducer and either the cover or the substrate. Asserted on appeal are claims 1, 2, 9, 15, 17, 20, 28, and 29.<sup>1</sup> Claim 1, the independent claim from which the other asserted claims depend, recites:

1. A surface mountable package for containing a transducer, the transducer being responsive to sound pressure levels of an acoustic signal to provide an electrical output representative of the acoustic signals, the surface mountable package comprising:

at least a first member and a second member and a chamber being defined by the first member and the second member, the transducer being attached to a surface formed on one of the first member or the second member and the transducer residing within the chamber;

the surface being formed with at least one patterned conductive layer, the patterned conductive layer being *electrically coupled* to the transducer; an outside surface of the surface mountable package comprising a plurality of terminal pads *electrically coupled* to the patterned conductive layer;

---

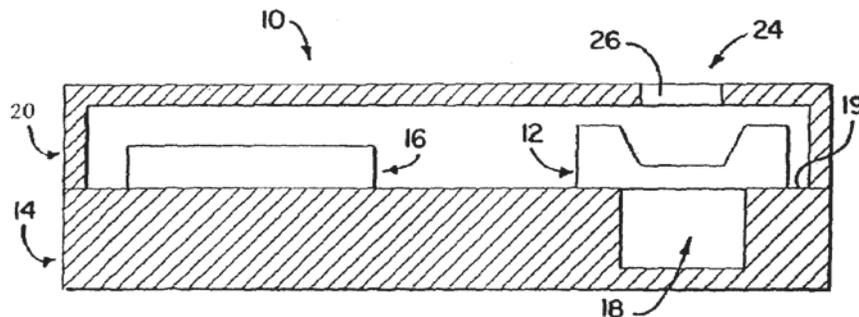
<sup>1</sup> Claim 10 of the '089 patent was asserted in the investigation. The ALJ determined that this claim was invalid for failing to meet the written description requirement of 35 U.S.C. § 112. J.A. 206-07. The Commission determined not to review the ALJ's finding, and Knowles does not appeal the invalidity of claim 10.

a *volume* being defined by the transducer and one of the first member or the second member, the volume being acoustically coupled to the transducer; and

one of the first member or the second member being formed to include an aperture, the aperture configured to permit the passage of an acoustic signal to the transducer.

'089 patent col.11 ll.20-44 (emphases added). A cross-sectional view of a preferred embodiment is shown in Figure 1, *infra*, which comprises a cover 20, a substrate 14, a transducer 12, and a back volume or air cavity 18. *Id.* col.3 ll.36-43. The MEMS package depicted in Figure 1 also comprises an aperture 24 in the cover 20, which allows external sound waves to reach the transducer in the package. *Id.* col.3 l.66–col.4 l.4.

FIG. 1



The '231 patent discloses MEMS packages that shield the microphone from an interference signal or an environmental condition. '231 patent col.1 ll.38-39. Claims 1 and 2 are asserted. Claim 1 recites:

1. A *microelectromechanical system package* comprising:

a microelectromechanical system microphone;

a substrate comprising a surface for supporting the microelectromechanical microphone;

a cover comprising a conductive layer having a center portion bounded by a peripheral edge portion; and

a housing formed by connecting the peripheral edge portion of the cover to the substrate, the center portion of the cover spaced from the surface of the substrate to accommodate the microelectromechanical system microphone, the housing including an acoustic port for allowing an acoustic signal to reach the microelectromechanical system microphone wherein the housing provides protection from an interference signal.

*Id.* col.5 ll.12-25 (emphasis added). Claim 2 recites:

2. A *microelectromechanical system package* for providing a shield from an interference signal, the microelectromechanical package comprising:

a silicon-based microphone;

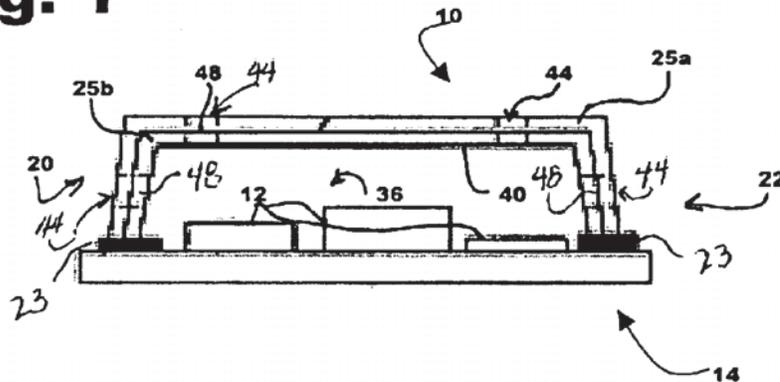
a substrate including a surface at least partially covered by a first layer of a conductive material, the silicon-based microphone is *electrically coupled* to the layer of a conductive material;

a cover comprising a second layer of a conductive material, the cover electrically connected to the first layer of a conductive material and providing a chamber in which the silicon-based microphone is located, the chamber providing an acoustic front volume for the silicon-based microphone.

*Id.* col.5 ll.26-38 (emphases added). Figure 1, *infra*, depicts a cross-sectional view of a preferred embodiment,

which comprises a cover 20, a substrate 14, and surface-mountable components 12 (one of which is a transducer). *Id.* col.3 ll.17-24.

**Fig. 1**



MemsTech imports MEMS microphone packages into the United States. On December 6, 2007, Knowles filed a complaint at the Commission alleging a violation of § 337 in the importation and sale of certain MEMS microphone packages (the “accused products”) by reason of infringement of the asserted claims of the ’089 and ’231 patents. Knowles named MemsTech as the only respondent.

On January 3, 2008, the Commission instituted a § 337 investigation based on Knowles’ complaint. 73 Fed. Reg. 2,277, 2,278 (Jan. 14, 2008). In response to Knowles’ allegations, MemsTech asserted noninfringement and invalidity of the asserted claims. On January 12, 2009, the Administrative Law Judge (“ALJ”) issued his “Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond.” *In re Certain Silicone [sic] Microphone Packages & Prods. Containing Same*, Inv. No. 337-TA-629, 2009 WL 389263 (USITC Jan. 12, 2009) (hereinafter, “Initial Determination”).

With respect to the '089 patent, the ALJ construed the term “electrically coupled” in claim 1 to mean “arranged so that electrical signals may be passed either directly, or indirectly via intervening circuitry, from one component to another.” J.A. 70. The ALJ construed “volume” in claims 1, 15, and 28 to mean “a space defined by the transducer and one of the first member or the second member.” J.A. 86. The ALJ determined that Memstech's accused products infringe claims 1, 2, 9, 15, 17, 20, 28, and 29 of the '089 patent.<sup>2</sup> Regarding validity, the ALJ determined that U.S. Patent 6,522,762 (“Mullenborn”) does not anticipate claims 1, 2, 9, 15, 17, 28, and 29. The ALJ also determined that U.S. Patent 4,533,795 (“Baumhauer”), alone or in view of Kress,<sup>3</sup> does not render obvious claims 1, 2, 9, 15, 17, 20, 28, and 29. Finally, the ALJ determined claim 1 was not obvious over U.S. Patent 5,459,368 (“Onishi”).

With respect to the '231 patent, the ALJ construed the term “electrically coupled” in claim 2 to have the same meaning as in claim 1 of the '089 patent. The ALJ also determined that the term “microelectromechanical system package” in the preambles of claims 1 and 2 is a claim limitation. The ALJ determined that Memstech's accused products infringe claims 1 and 2 of the '231 patent. Regarding validity, the ALJ found that Baumhauer does not anticipate claims 1 and 2. The ALJ also found that Onishi does not render obvious claim 1 or 2.

The ALJ further considered whether, under § 337, “an industry in the United States, relating to the articles

---

<sup>2</sup> The ALJ found that only certain types of Memstech's accused products infringe claims 9 and 28 of the '089 patent.

<sup>3</sup> H.-J. Kress et al., *Integrated Silicon Pressure Sensor for Automotive Applications with Electronic Trimming*, SAE Document 950533 (1955). J.A. 1380-87.

protected by the patent, . . . exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2) (2006). The ALJ first noted that the Commission decided not to review his initial determination that Knowles satisfied the domestic industry requirement for the ’231 patent. The ALJ then determined that Knowles satisfied the domestic industry requirement for the ’089 patent because its “SiSonic” silicon microphone packages practice claim 1.

Based on the findings in his Initial Determination, the ALJ concluded that the importation or sale of the accused Memstech products violated § 337. The ALJ recommended that the Commission issue a limited exclusion order as to those Memstech products found to infringe the ’231 or ’089 patents.<sup>4</sup>

The Commission determined to review portions of the ALJ’s Initial Determination and issued a notice specifying the issues under review. 74 Fed. Reg. 11,748 (Mar. 19, 2009). The unreviewed portions of the Initial Determination became the decision of the Commission. J.A. 258; *see also Ajinomoto Co. v. Int’l Trade Comm’n*, 597 F.3d 1267, 1272 (Fed. Cir. 2010). On June 11, 2009, the Commission issued a notice of its final determination of violation of § 337, and on June 12, 2009, the Commission issued an opinion setting forth the reasons for its determination. The Commission issued a revised opinion on August 18, 2009, and a corrected revised opinion on August 21, 2009.

The Commission affirmed the ALJ’s determinations under review, with certain modifications. Regarding the ’231 patent, the Commission, *inter alia*, affirmed the determination that Memstech’s accused products infringe claims 1 and 2; affirmed the determination that Baumhauer did not anticipate claims 1 and 2; and affirmed the

---

<sup>4</sup> A disputed issue involving Memstech’s “chamber chip” products is addressed *infra*.

determination that Onishi did not render obvious claims 1 and 2.

Regarding the '089 patent, the Commission, *inter alia*, affirmed the construction of the claim term “electrically coupled”; affirmed the construction of the claim term “volume”; affirmed the determination that the accused products infringe the asserted claims of the '089 patent; affirmed the determinations that Mullenborn does not anticipate claims 1, 2, 9, 15, 17, 20, 28, and 29; affirmed the determinations that Baumhauer alone, Baumhauer in combination with Kress, and Onishi<sup>5</sup> did not render obvious claims 1, 2, 9, 15, 17, 20, 28, and 29; and affirmed the determinations that Knowles' SiSonic products practice the '089 patent and that a domestic industry exists for this patent.

Accordingly, the Commission found a violation of § 337. The Commission's determination became final following the sixty-day Presidential review period under 19 U.S.C. § 1337(j)(4). Memstech appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(6).

#### DISCUSSION

We review the Commission's final determinations under the standards of the Administrative Procedure Act (“APA” or “Act”). *See* 19 U.S.C. § 1337(c) (stating that “[a]ny person adversely affected by a final determination of the Commission” may appeal to this court “for review in accordance with chapter 7 of Title 5”). Under the Act, rulings of law are reviewed *de novo*, and findings of fact are reviewed for substantial evidence. *Ajinomoto*, 597

---

<sup>5</sup> The ALJ found that independent claim 1 of the '089 patent was not obvious over Onishi. The Commission supplemented this finding with further findings that dependent claims 2, 9, 15, 17, 20, 28, and 29 were also not obvious over Onishi. J.A. 385.

F.3d at 1272; *OSRAM GmbH v. Int'l Trade Comm'n*, 505 F.3d 1351, 1355 (Fed. Cir. 2007). Substantial evidence is “such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.” *Id.* (quoting *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 217 (1938)).

### I. Claim Construction

Claim construction is a matter of law subject to *de novo* review. *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454-55 (Fed. Cir. 1998) (en banc). To ascertain the scope and meaning of the claims, we consider the claim language, the specification, the prosecution history, and relevant extrinsic evidence. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314-17 (Fed. Cir. 2005) (en banc). “[A]bsent contravening evidence from the specification or prosecution history, plain and unambiguous claim language controls the construction analysis.” *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1347 (Fed. Cir. 2008). Extrinsic evidence “may be used only to help the court come to the proper understanding of the claims; it may not be used to vary or contradict the claim language.” *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1584 (Fed. Cir. 1996).

The doctrine of claim differentiation assists in determining whether a limitation in a dependent claim should be read into an independent claim. *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004) (“[W]here the limitation that is sought to be ‘read into’ an independent claim already appears in a dependent claim, the doctrine of claim differentiation is at its strongest.”). Moreover, an applicant’s statements during prosecution history may result in a disclaimer of claim scope; but any such remark must constitute “a sufficiently clear and deliberate statement to meet the high standard for finding a disclaimer of claim scope.” *Honeywell Int’l, Inc. v.*

*Universal Avionics Sys. Corp.*, 493 F.3d 1358, 1365 (Fed. Cir. 2007).

“[A] preamble is a claim limitation if it recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *Poly-Am., L.P. v. GSE Lining Tech., Inc.*, 383 F.3d 1303, 1309 (Fed. Cir. 2004) (internal quotation marks omitted). There is “[n]o litmus test” for determining whether a preamble limits claim scope; however, “when reciting additional structure or steps underscored as important by the specification, the preamble may operate as a claim limitation.” *Catalina Marketing Int’l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002). “The effect preamble language should be given can be resolved only on review of the entirety of the patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.” *Corning Glass Works v. Sumitomo Elec. U.S.A., Inc.*, 868 F.2d 1251, 1257 (Fed. Cir. 1989).

#### A. The ’089 Patent

##### 1. “Volume”

Regarding the ’089 patent, Memstech appeals the Commission’s determination that “volume” in claim 1 of the ’089 patent means “a space defined by the transducer and one of the first member or the second member.” J.A. 86. Relying on *C.R. Bard, Inc. v. U.S. Surgical Corp.*, 388 F.3d 858 (Fed. Cir. 2004), Memstech argues that the Commission’s claim construction of the term “volume” is erroneous, because the abstract and summary sections of the specification require that the “volume” is formed from a recess or hole in the substrate over which the transducer is mounted. Memstech further contends that the Commission’s reliance on the doctrine of claim differentiation in its construction of the term “volume” was mis-

placed, because the language in dependent claim 3, which adds a limitation that the volume includes a recess formed in the surface, is narrower than the “volume” of independent claim 1, which encompasses a recess, hole, or cavity in the substrate. Memstech asserts that the proper construction of “volume” is “a space that resides at least partly within (for example in a recess or hole in) the substrate (second member) or the cover (first member) and is at least partly bounded by the transducer.” Non-confidential Br. Appellant MEMS Technology Berhad 24, 2010 WL 1807466 (Mar. 25, 2010) (hereinafter, “Appellant’s Br.”).

In response, the Commission and Knowles argue that the Commission correctly construed the term “volume.” They assert that Memstech’s proposed construction would add a limitation not present in claim 1 and would exclude certain embodiments described in the specification. They contend that *C.R. Bard* does not compel Memstech’s proposed claim construction because, unlike in *C.R. Bard*, the embodiments disclosed in the ’089 patent do not universally contain the additional limitation proposed by Memstech. The Commission and Knowles also point out that the doctrine of claim differentiation supports the Commission’s construction, because dependent claims 3 and 4 further limit claim 1 by specifying particular methods of forming the volume.

We agree with the Commission and Knowles that the Commission correctly construed the term “volume.” As the Commission noted, the specification discloses some embodiments in which the “volume” is not formed from a recess or hole in the substrate. For example, in describing Figure 23, the specification states that “[t]he transducer back volume 18 is formed by the back hole (mounted down) of the silicon microphone only.” ’089 patent col.6 ll.59-60. Further, Figure 28 shows a transducer 58

mounted on a substrate 46 using epoxy 86 and a retaining ring 84; the transducer is shaped such that it creates a volume between it and the substrate to which it is attached, notwithstanding that substrate does not contain any recess or hole. *Id.* col.7 ll.29-51, Fig. 28. In other words, in both of these embodiments, a volume is created by the shape of the transducer, not by any recess or hole in the substrate. We have cautioned that “a construction that excludes a preferred embodiment ‘is rarely, if ever, correct.’” *C.R. Bard*, 388 F.3d at 865 (quoting *Vitronics*, 90 F.3d at 1583). MemTech does not dispute that its proposed construction would exclude particular embodiments from the specification, nor does it offer any justification for this exclusion. The Commission’s construction of the term “volume” comports with both the claim language and the breadth of the specification, neither of which supports the additional limitations that MemTech urges.

The Commission’s construction of “volume” is further supported by the doctrine of claim differentiation. *See Phillips*, 415 F.3d at 1315. Claim 3, which depends from claim 1, adds the limitation “the volume includine [sic] a recess formed in the surface.” Claim 4, which also depends from claim 1, adds the limitation “the volume including a hole through one of the first member or the second member containing the surface.” Under MemTech’s proposed claim construction, which would effectively limit the “volume” of claim 1 to embodiments including a recess or hole in the substrate, dependent claims 3 and 4 are essentially redundant. Such a construction is disfavored, *Liebel-Flarsheim*, 358 F.3d at 910, particularly where, as here, the construction would without justification exclude embodiments in the specification. We therefore decline to adopt MemTech’s proposed claim construction of the term “volume.”

MemsTech misreads *C.R. Bard* in arguing that claim 1 must be limited to a scope commensurate with the abstract or summary sections of the specification. In that case, we addressed the question whether the claimed “plug” should be construed as having a “pleated surface.” In answering in the affirmative, we noted that both the abstract and summary sections of the specification described the plug as having a pleated surface. *C.R. Bard*, 388 F.3d at 860-61. MemsTech seizes on that aspect of the case and argues that the abstract and summary sections of the ’089 patent are dispositive as to the meaning of “volume.” Yet MemsTech overlooks the fact that, in *C.R. Bard*, we noted that “statements [in the specification] describing preferred embodiments of the surface of the plug *universally* describe a ‘pleated conical plug.’” *Id.* at 866 (emphasis added). Here, in contrast, the general language in the abstract and summary sections does not represent the full scope of the embodiments in the specification.

## 2. “Electrically Coupled”

MemsTech also appeals the Commission’s determination that “electrically coupled” in claim 1 of the ’089 patent means “arranged so that electrical signals may be passed either directly, or indirectly via intervening circuitry, from one component to another.” MemsTech argues that none of the parties proposed the Commission’s construction and that the Commission legally erred by adopting its construction from a district court opinion that construed a similar claim term in an unrelated patent. MemsTech also contends that, during prosecution, the applicant distinguished prior art U.S. Patent 5,101,543 (“Cote”) on the basis that the invention claimed in the application leading to the ’089 patent requires a *direct* electrical connection, and that the patent examiner’s reasons for allowance and the testimony of Mem-

sTech's expert further support this limitation. Memstech further asserts that the specification of the '089 patent discloses only a direct electrical connection between the transducer and the substrate. Thus, Memstech argues, the Commission erred by ignoring the intrinsic evidence and construing "electrically coupled" to include the *indirect* passage of electrical signals via intervening circuitry. The correct construction of "electrically coupled," Memstech contends, is "the transducer is directly connected to the patterned conductive layer on the substrate." Appellant's Br. 30.

The Commission and Knowles disagree. They argue that, given the lack of a special meaning for "electrically coupled" in the claim language or specification, the Commission correctly construed this term in accordance with its plain and ordinary meaning. They contend that it was not improper for the Commission to adopt a construction that the parties did not propose. They further contend that the prosecution history does not contradict the construction by limiting the term to a direct electrical connection.

We agree with the Commission and Knowles, and we affirm the Commission's construction of the term "electrically coupled" in claim 1 of the '089 patent. Expert testimony indicates that the ordinary meaning of this term "is quite broad and includes indirect modes [of electrical connection]." J.A. 3461. Memstech has failed to rebut the "heavy presumption" in favor of this ordinary meaning as understood by one of ordinary skill in the art. *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Grp., Inc.*, 262 F.3d 1258, 1268 (Fed. Cir. 2001). Nowhere in the specification is the claimed electrical coupling described as "direct," and nothing in the claim language or specification suggests that "electrically coupled" should have

any interpretation other than its plain meaning. *See DSW*, 537 F.3d at 1347.

MemsTech relies on the testimony of its expert, who stated that “flip chip bump bonding, the preferred method of electrical coupling” disclosed in the ’089 patent, would result in a “direct connection” between the transducer and the substrate. J.A. 2061; *see also* ’089 patent col.3, ll.61-63. Yet MemsTech offers no rationale why one of ordinary skill would understand “electrically coupled” as limited to this preferred method. MemsTech has not demonstrated that one of ordinary skill would understand the specification to “reveal an intentional disclaimer, or disavowal, of claim scope” or to provide a “special definition” for this term. *Phillips*, 415 F.3d at 1316. It is not dispositive that the specification may describe or depict one or more preferred embodiments; as we noted in *Phillips*, “although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.” *Id.* at 1323.

Regarding the prosecution history of the ’089 patent, the Commission did not err by concluding that the applicant’s arguments do not limit the “electrically coupled” claim term to a direct electrical connection. MemsTech refers to the portion of the prosecution history in which the applicant distinguished the claimed invention from Cote:

The electret transducer taught by Cote is not mounted or attached to a surface formed on one of [the] first and second members. Instead, Cote teaches an electret microphone that mounts to an upper rim portion of a base (col. 3, line 30) and an annular shoulder of a cap (col. 3, line 58). Thus, Cote does not teach the claimed structure wherein

the microphone transducer is attached to a surface of one of the first and second members.

Cote does not teach or suggest that the transducer is mounted to a surface. As such, Cote cannot teach the further claimed electrical connection between the transducer and the at least one patterned conductive layer formed on the surface to which it is attached. In fact, Cote fails to teach or suggest the formation of a patterned conductive layer associated with any part of the described electret microphone.

J.A. 1705-06. MemTech characterizes the applicant's argument as an attempt to distinguish Cote as lacking a direct electrical connection. As the above passage demonstrates, however, the applicant distinguished Cote based on the fact that Cote's transducer is not attached to a surface of one of the first member or the second member, as claim 1 requires. As the Commission correctly determined, the sentence in the applicant's remarks referring to the "electrical connection" merely states that Cote cannot teach the electrical connection between the transducer and the patterned conductive layer formed *on the surface to which it is attached*, because Cote does not teach that the transducer is mounted to a surface. In sum, the disputed prosecution history does not contain a "clear and deliberate statement" that meets the high standard for a disclaimer of claim scope. *Honeywell*, 493 F.3d at 1365. In addition, we are not persuaded by MemTech's arguments regarding the patent examiner's stated reasons for allowance, J.A. 1865, and the testimony of its expert, J.A. 2129, which simply reiterate MemTech's mischaracterization of the prosecution history.

Having determined that the plain and ordinary meaning of the "electrically coupled" claim term should apply,

the Commission considered relevant extrinsic evidence—in the form of two district court opinions—to aid in construction of this term. Memstech contends this was error. We disagree. Related judicial holdings can be an appropriate form of non-binding extrinsic evidence in a claim construction analysis. *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1312 (Fed. Cir. 2005) (“The district court properly referred to a related, non-binding judicial opinion to support its independent conclusion in this case.”). Importantly, the Commission turned to the extrinsic evidence only after concluding that the intrinsic evidence did not provide any special meaning for the disputed claim term. And the Commission thereafter in construing the term adhered to the rule that extrinsic evidence may not be used to vary or contradict the claim language. *Vitronics*, 90 F.3d at 1584. The two judicial opinions the ALJ reviewed construed the term “electrically coupled” according to its plain and ordinary meaning; the constructions applied in those cases did not rely upon the intrinsic evidence, and Memstech does not argue otherwise. See *Silicon Graphics, Inc. v. n Vidia Corp.*, 58 F. Supp. 2d 331, 345-46 (D. Del. 1999) (applying the “ordinary and accustomed meaning” of the term “coupled” as used in an electronics context, because “[n]either the claim nor the specification defines the term”); *GSK Techs. Inc. v. Eaton Elec. Inc.*, Nos. 606CV358, 606CV360, 606CV361, 2008 WL 906713, at \*5 (E.D. Tex. Apr. 1, 2008) (“As the intrinsic evidence does not provide a special meaning for ‘electrically coupled,’ its plain and ordinary meaning applies.”).

Finally, the fact that neither party advanced the claim construction adopted by the Commission is not legal error, as Memstech contends. As we stated in *Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, “the trial judge has an independent obligation to determine the meaning

of the claims, notwithstanding the views asserted by the adversary parties.” 64 F.3d 1553, 1555 (Fed. Cir. 1995). We therefore conclude that the Commission’s construction of the claim term “electrically coupled,” as used in claim 1 of the ’089 patent, is correct.

## B. The ’231 Patent

### 1. Claim Preambles

Regarding the ’231 patent, Memstech appeals the Commission’s determination on the limiting effect of the preambles of claims 1 and 2. Memstech argues that “microelectromechanical system package” is not necessary to give meaning to claims 1 and 2 of the ’231 patent, because it adds nothing beyond the elements already present in the claims. Memstech thus contends that, contrary to the Commission’s determination, the preambles should not be construed as claim limitations.

In response, the Commission and Knowles argue that the Commission correctly found that the preambles in question are limitations. They contend that the Commission properly considered the intrinsic and extrinsic evidence and correctly concluded that the “package” term adds a limitation not otherwise present in the claim body.

We conclude that the Commission correctly determined that the disputed preambles are claim limitations. “[W]hen the preamble is essential to understand limitations or terms in the claim body, the preamble limits claim scope.” *Catalina Marketing*, 289 F.3d at 808. The body of claim 1 lists a microphone, a substrate, a cover, and a housing formed by connecting the cover and the substrate. The body of claim 2 lists a microphone, a substrate, and a cover. As the Commission correctly concluded, J.A. 49, the specification describes mounting the MEMS “packages” of the invention on end-users’

printed circuit boards (“PCBs”), ’231 patent col.3 ll.3-16. Indeed, the essence of the invention claimed in the ’231 patent is the containment of the components in a “package.” *See, e.g.*, ’231 patent title (“Microelectromechanical System *Package* with Environmental and Interference Shield” (emphasis added)); col.1 ll.8-12, 36-41; col.3 ll.3-4; col.4 ll.40-43; col.5 ll.2-5. The requirement that the components listed in the claim body come together to form a mountable package is thus an “important characteristic of the claimed invention.” *Poly-Am.*, 383 F.3d at 1310. Yet, standing alone, the bodies of claims 1 and 2 do not require that the listed components come together in this way to constitute a package. For this reason, the Commission determined that the preamble term “microelectromechanical system package” adds a limitation that is not otherwise present in the claim and is necessary to give meaning to the claim. *See Catalina Marketing*, 289 F.3d at 808. The Commission did not legally err in its determination.

## 2. “Electrically Coupled”

The Commission construed the term “electrically coupled” in claim 2 of the ’231 patent to have the same meaning as in claim 1 of the ’089 patent, described *supra*. In opposing Commerce’s construction, Memstech repeats arguments it made for the ’089 patent. Memstech argues, in particular, that the specification of the ’231 patent, like that of the ’089 patent, discloses only direct electrical connections, and therefore the construction of “electrically coupled” should be so limited.

The Commission and Knowles argue, as they did for the ’089 patent, that the specification does not provide any special meaning for “electrically coupled,” and therefore its plain and ordinary meaning should apply. Knowles also argues (and Memstech does not attempt to

rebut) that the two asserted patents do not share a prosecution history, and thus that Memstech's arguments regarding the prosecution history of the '089 patent do not apply to the '231 patent.

We agree with the Commission and Knowles. We discussed above in connection with the '089 patent why the Commission did not err in its construction of the term "electrically coupled." Nowhere in the specification of the '231 patent is the claimed electrical coupling described as "direct," and nothing in the claim language or specification suggests that "electrically coupled" should have any interpretation other than its plain meaning. *See DSW*, 537 F.3d at 1347. Memstech advances no additional arguments for the '231 patent beyond those it presented for the '089 patent. Moreover, its position here is even weaker because it does not argue that the prosecution history of the '089 patent is relevant to the construction of this claim term in the '231 patent. We perceive no material difference between the specifications or claims of these two patents that would warrant different treatment of the same "electrically coupled" claim term. We therefore conclude that the Commission did not err in construing "electrically coupled" in claim 2 of the '231 patent.

## II. Infringement

On appeal, Memstech does not dispute that under the Commission's constructions of the disputed claim terms its accused products infringe the asserted claims. Because we affirm the Commission's claim constructions, we likewise affirm the determination that Memstech's accused products infringe the asserted claims of the '089 and '231 patents.<sup>6</sup>

---

<sup>6</sup> We address Memstech's "chamber chip" products below.

### III. Validity

A United States patent is presumed valid under 35 U.S.C. § 282, and a party asserting invalidity as a defense to infringement must present clear and convincing evidence that the patent is invalid. *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1365 (Fed. Cir. 2004). A claim is invalid under § 102 if a prior art document discloses every element of the claimed invention, either expressly or inherently. *Adv. Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000). Anticipation under 35 U.S.C. § 102 is a question of fact, which we review for substantial evidence. *Vizio, Inc. v. Int'l Trade Comm'n*, 605 F.3d 1330, 1342 (Fed. Cir. 2010).

A claim is invalid for obviousness if, to one of ordinary skill in the pertinent art, “the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made.” 35 U.S.C. § 103(a) (2006); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406-07 (2007). “Obviousness is a question of law based on underlying factual inquiries, and thus we review the Commission’s ultimate determination de novo and factual determinations for substantial evidence.” *Vizio*, 605 F.3d at 1342. Underlying factual inquiries in the obviousness analysis include: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the prior art and the claimed invention; and (4) the extent of any objective indicia of nonobviousness. *Crocs, Inc. v. Int'l Trade Comm'n*, 598 F.3d 1294, 1308 (Fed. Cir. 2010).

## A. The '089 Patent

### 1. Anticipation

MemsTech appeals the Commission's determination that claims 1, 2, 9, 15, 17, 28, and 29 of the '089 patent are not invalid under § 102 for anticipation by Mullenborn. MemsTech argues that Figure 4 of Mullenborn discloses every limitation in claim 1 of the '089 patent. MemsTech contends that the Commission erred by disregarding the testimony of Knowles' expert and finding that Mullenborn does not disclose a "chamber" as claimed in claim 1. Regarding claim 2, MemsTech asserts that the Commission erred by concluding that Mullenborn does not disclose a cover coupled to the substrate. Regarding claims 9, 15, 17, 28, and 29, MemsTech argues that the parties agreed that Mullenborn discloses each additional limitation of these dependent claims.

The Commission and Knowles respond that the Commission correctly determined that Mullenborn does not anticipate claim 1, and that its conclusion is supported by substantial evidence—both intrinsic (the language of claim 1) and extrinsic (the dictionary definition of the term "chamber"). They contend that MemsTech mischaracterizes the testimony of Knowles' expert. They argue that the Commission's construction of claim 2 is similarly supported by intrinsic and extrinsic evidence. Regarding claims 9, 15, 17, 28, and 29, the Commission and Knowles argue that, because Mullenborn does not anticipate claim 1, Mullenborn cannot as a matter of law anticipate claims that depend from claim 1.

We agree with the Commission and Knowles that substantial evidence supports the Commission's finding that Mullenborn does not anticipate claim 1 or asserted dependent claims 2, 9, 15, 17, 28, or 29. Regarding claim 1, the Commission considered the limitation that the

package comprises “a chamber being defined by the first member and the second member.” Neither party argued that “chamber” carried any special meaning in the context of the ’089 patent, and the Commission did not err by applying the term’s ordinary meaning, “a room or a natural or artificial enclosed space or cavity.” J.A. 113 (quoting *Webster’s New Collegiate Dictionary* 183 (1979)); see also *Phillips*, 415 F.3d at 1314 (“In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words. In such circumstances, general purpose dictionaries may be helpful.” (citation omitted)).

The Commission further found that Figure 4 of Mullenborn (depicted *infra*) contains, *inter alia*, a lid 5, a transducer 1, a substrate 2, and an EMI shield 16. The Commission determined that, contrary to MemSTech’s arguments, substrate 2 and lid 5 do not form a “chamber.”

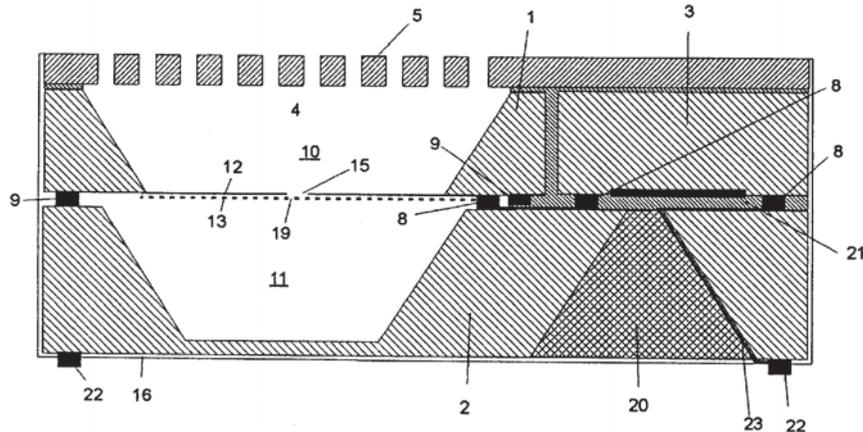


Figure 4

The Commission's finding is supported by substantial evidence, including the disclosure in Mullenborn, the language of claim 1, and the ordinary meaning of the term "chamber." As the Commission correctly found, and as Knowles' expert explained, J.A. 1180-81, lid 5 and substrate 2 do not by themselves define a chamber; rather, in order to form an enclosed chamber, a third element (*e.g.*, the EMI shield 16) would be required to enclose the sides of such chamber. Substantial evidence thus supports the finding that Mullenborn does not teach the limitation of claim 1 requiring a chamber that is defined by the two specified members.

The Commission did not erroneously disregard certain testimony of Knowles' expert, as Memstech contends. Memstech unfairly characterizes that testimony as stating that all MEMS microphone packages would have a chamber. In fact, the focus of that testimony was the meaning of the claim term "volume." J.A. 2227. At no point did Knowles' expert state that all MEMS microphone packages would have a chamber defined by the first and second members, as claim 1 requires. The testimony thus does not contradict the Commission's finding that Mullenborn does not disclose the "chamber" as claimed in claim 1 of the '089 patent.

Regarding claim 2, substantial evidence supports the Commission's finding that Mullenborn does not disclose "a cover coupled to the substrate to define the chamber." Neither party argued that "coupled" has a special meaning in the context of the '089 patent, and the Commission properly applied this term's plain and ordinary meaning, "fastened together." J.A. 115 (quoting *Webster's New Collegiate Dictionary* 258 (1979)); *see also Phillips*, 415 F.3d at 1314. As the Commission correctly found, the lid 5 and substrate 2 are at opposite ends of the structure

depicted in Figure 4 of Mullenborn; they are not coupled or fastened together to form a chamber.

Regarding the remaining asserted claims of the '089 patent, all of which depend from independent claim 1, Memstech argues only that, because claim 1 is unpatentable, so too are the asserted dependent claims. However, because substantial evidence supports the finding that Mullenborn does not anticipate claim 1, this reference also cannot anticipate asserted dependent claims 2, 9, 15, 17, 28, or 29, which depend from claim 1 and contain all the limitations of claim 1. *See Hartness Int'l, Inc. v. Simplimatic Eng'g Co.*, 819 F.2d 1100, 1108 (Fed. Cir. 1987).

## 2. Obviousness

Memstech challenges the Commission's determinations that the asserted claims of the '089 patent were not obvious over either (1) Baumhauer alone or in view of Kress; or (2) Onishi alone. Memstech alleges error in specific aspects of the Commission's obviousness determinations, which we address in turn below.

### a. Baumhauer Alone or In View of Kress

Regarding Baumhauer, Memstech argues that, even if the preamble of claim 1 is limiting, Baumhauer's Figure 6 teaches that surface mounting is an option, and Kress shows that surface mounting would have been an obvious modification to one of ordinary skill. Memstech further contends that dependent claims 2, 9, 15, 17, 20, 28, and 29 were also obvious over Baumhauer (with or without Kress), because these claims add no nonobvious limitations to claim 1.

The Commission and Knowles argue in response that the Commission correctly found that Baumhauer does not teach a mountable package, as the preamble of claim 1

requires. Moreover, they contend, Kress teaches packaging only in the context of automotive silicon pressure sensors, not as applied to surface mountable packages for microphones. They argue that Memstech failed to provide clear and convincing evidence of a reason why one of ordinary skill would combine Baumhauer with Kress to create the invention claimed in the '089 patent. They further contend that because claim 1 was nonobvious, claims 2, 9, 15, 17, 20, and 28, which depend from claim 1, were also nonobvious.

We agree with the Commission and Knowles. Baumhauer does not teach a “surface mountable package.” As the Commission found, Baumhauer Figure 6 discloses a microphone attached directly to a circuit board, not a unit with components that come together to form a mountable package. J.A. 382-83. The testimony of Knowles’ expert provides substantial supporting evidence. J.A. 1129 (“Baumhauer Figure 6 is an example of attaching the microphone device to an end-user board and then attaching a protective cover onto that portion of the PC board where the microphone resides. Therefore, Baumhauer discloses a device, not a package.”).

Kress does not cure the deficiencies of Baumhauer. Titled “Integrated Silicon Pressure Sensor for Automotive Application with Electronic Trimming,” Kress mentions packaging only briefly, and does so in the context of pressure sensors for automobiles—not surface mountable packages for microphones. J.A. 1386-87. The Commission correctly found that Kress lacked detail sufficient to permit one of ordinary skill to adapt it to an acoustic MEMS package. J.A. 167-68. The expert testimony indicated that “packaging design is device and application specific.” J.A. 1126. The Commission did not err in determining that Memstech failed to present clear and convincing evidence that Baumhauer, alone or in view of

Kress, rendered claim 1 obvious. Because independent claim 1 was not obvious over Baumhauer alone or in view of Kress, the Commission correctly determined that dependent claims 2, 9, 15, 17, 20, 28, and 29 were also not obvious. *See Hartness*, 819 F.2d at 1108.

b. Onishi

Regarding Onishi, MemsTech argues that, although Onishi does not disclose an aperture as claim 1 requires, the addition of an aperture to the device depicted in Onishi's Figure 1 would have been an obvious modification. MemsTech also argues that the Commission erred because Onishi does not teach away from including an aperture and does not teach a transducer mounted on a substrate. MemsTech contends that the Commission failed to recognize the ability of a person of ordinary skill to modify Onishi to arrive at the invention claimed in the '089 patent. Finally, MemsTech contends that dependent claims 2, 9, 15, 17, 20, 28, and 29 add no limitations that render these claims patentable over Onishi.

The Commission and Knowles argue that substantial evidence supports the Commission's findings regarding the differences between the device taught in Onishi and the invention claimed in the '089 patent. They also argue that substantial evidence supports the Commission's finding that Onishi teaches away from the claimed invention. They further contend that expert testimony indicates that one of ordinary skill would not have modified Onishi to make the invention claimed in the '089 patent.

Again, we agree with the Commission and Knowles. As its title indicates, Onishi discloses a "Surface Acoustic Wave Device" ("SAW device"), not a MEMS microphone package. Knowles' expert testified that a SAW device is designed to detect surface vibrations, not sound waves. J.A. 1147-48. Onishi does not contain a "transducer being

responsive to sound pressure levels of an acoustic signal,” as claim 1 requires, and the expert testimony indicates that modifying the Onishi device to incorporate such a microphone would cause “serious problems.” J.A. 2476.

Expert testimony also supports the finding that SAW devices do not contain acoustic ports because external sound waves are unwanted “‘noise’ that must be filtered out.” J.A. 1148. Consistent with this testimony, Onishi expressly teaches away from creating an aperture, as the Commission correctly found. *See In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994) (“A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.”). Throughout the specification Onishi describes its SAW device as “sealed in an airtight condition,” thus teaching away from incorporating an aperture.

MemsTech failed to provide clear and convincing evidence that one of ordinary skill would have modified Onishi to arrive at the invention in claim 1 of the ’089 patent. Moreover, because claim 1 was nonobvious over Onishi, so too were claims 2, 9, 15, 17, 20, 28, and 29, which depend from claim 1. *See Hartness*, 819 F.2d at 1108. Thus, the Commission did not err in determining that these claims were nonobvious over Onishi.

## B. The ’231 Patent

### 1. Anticipation

MemsTech argues that Baumhauer anticipates claims 1 and 2 of the ’231 patent. MemsTech asserts that, for invalidity purposes, the Commission applied a narrow definition of “microelectromechanical system package” by requiring that a package be capable of two levels of elec-

trical connection—one from the device to the package, and one from the package to an external circuit or other system. In contrast, according to Memstech, the Commission applied a broader definition of this claim term for infringement purposes.

The Commission and Knowles argue in response that the Commission consistently applied its construction of “microelectromechanical system package,” which requires two levels of electrical connection. They argue that this definition is supported by substantial evidence and that the Commission did not err in its application.

We agree with the Commission and Knowles. In concluding that the term “microelectromechanical system package” in the preamble of claims 1 and 2 of the ’231 patent was a limitation, the Commission found, based on substantial evidence in the form of testimony from Knowles’ expert, that “one of ordinary skill in the art would know that a ‘package’ is a self-contained unit that has two levels of connection, to the device and to a circuit (or other system). If there is only one connection level, then there is no package.” J.A. 49; *see also* J.A. 3420. The Commission applied this finding in its infringement determination, which referenced the testimony of Knowles’ expert. J.A. 212, 217; *see also* J.A. 3426, 3420.

The Commission also applied this finding in its determination that Baumhauer did not anticipate claims 1 or 2, because it does not disclose a MEMS “package.” The Commission cited the testimony of Knowles’ expert, who agreed that Baumhauer cannot anticipate the claims of the ’231 patent because it does not disclose first and second levels of electrical connection. J.A. 377-78 (citing J.A. 2470); *see also* J.A. 1129, 3420. We therefore reject Memstech’s argument and conclude that the Commission consistently applied its definition of “microelectrome-

chanical system package” in concluding that Baumhauer did not anticipate claims 1 or 2 of the ’231 patent.

## 2. Obviousness

MemsTech argues that Onishi rendered obvious claims 1 and 2 of the ’231 patent. Specifically, MemsTech contends that it would have been obvious to modify the SAW device in Onishi Figure 1 to include an acoustic port in the cover. In addition, MemsTech faults the Commission for finding that Onishi teaches away from adding an acoustic port to Onishi. Finally, MemsTech cites three additional prior art references (Kress, discussed *supra*; Peterson, J.A. 1390-95, and Sjursen, J.A. 1340-72), as allegedly supporting its contention that it would have been obvious to modify Onishi.

In response, the Commission and Knowles contend that substantial evidence, including the testimony of Knowles’ expert, supports the Commission’s factual finding that Onishi taught away from the inclusion of an acoustic port. Knowles also argues that Onishi taught a SAW device, not a MEMS microphone as required by the preamble of claims 1 and 2. The Commission argues that MemsTech waived arguments regarding the three additional references, and Knowles asserts that such references do not amount to clear and convincing proof of obviousness.

We reject MemsTech’s arguments and hold that claims 1 and 2 were not obvious over Onishi. First, we note that claims 1 and 2 require a MEMS microphone, whereas Onishi discloses a SAW device. According to the expert testimony, these two types of devices have “diametrically opposed” packaging requirements, J.A. 1147-48, thus lending substantial evidentiary support to the Commission’s findings regarding the differences between these devices. J.A. 139.

In addition, the Onishi SAW device lacks an acoustic port. Claim 1 requires an “acoustic port,” which the parties agree is the same as the “aperture” in claim 1 of the ’089 patent. Although claim 2 does not explicitly require an acoustic port, the Commission correctly noted that this claim requires a “chamber providing an acoustic front volume for the silicon-based microphone,” meaning that an acoustic signal must be able to reach the claimed silicon microphone by way of an acoustic port. J.A. 140. As discussed above in connection with the ’089 patent, MemTech did not present clear and convincing evidence that one of ordinary skill would have modified the SAW devices taught by Onishi, which were intended to remain sealed in an airtight chamber, to include an acoustic port. *See Gurley*, 27 F.3d at 553. The Commission correctly concluded that Onishi did not render obvious claims 1 and 2 of the ’231 patent.

Even if MemTech’s argument regarding the three additional references was not waived,<sup>7</sup> we conclude that MemTech has failed to present clear and convincing evidence indicating that one of ordinary skill would have

---

<sup>7</sup> The Commission contends that MemTech’s argument regarding the three additional references was waived, because it failed to raise the argument before the ALJ and again failed to raise it in its petition for review of the ALJ’s final Initial Determination. *See Nonconfidential Br. of Appellee Int’l Trade Comm’n* 51-52, 2010 WL 2968757 (July 6, 2010). MemTech does not dispute these contentions, but instead points out that the Commission chose to review the issue on its own initiative, pursuant to 19 C.F.R. § 210.43(b)(2). *Reply Br. of Appellant Mem Technology Berhad* 21, 2010 WL 3389902 (Aug. 6, 2010). Although MemTech is correct that the Commission indicated its intent to review this issue, J.A. 302 at (1)(c), MemTech fails to acknowledge that the Commission never in fact reviewed the three additional references, J.A. 374 at (1)(c).

modified Onishi to add an acoustic port to a SAWS device. None of the three additional references relates to a MEMS microphone device. Moreover, regarding the '231 patent, MemsTech's expert provided only brief, conclusory testimony regarding each of these additional references individually, not in combination with one another or with Onishi. We decline MemsTech's invitation to reconstruct the claimed invention with hindsight using these disparate prior art documents. *See Grain Processing Corp. v. Am. Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) ("Care must be taken to avoid hindsight reconstruction by using the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit." (internal quotation marks omitted)).

### C. MemsTech's Additional Arguments for Obviousness

In a separate portion of its brief, MemsTech makes additional obviousness arguments relating to both the '089 and '231 patents. In a section marked as confidential, MemsTech argues for obviousness with reference to the way in which the inventor arrived at the inventions. We reject MemsTech's argument. Under 35 U.S.C. § 103(a), "[p]atentability shall not be negated by the manner in which the invention was made."

MemsTech also asserts that the '089 and '231 patents were obvious under *KSR*, 550 U.S. 398. Yet MemsTech appears to misapprehend its burden for proving obviousness. For instance, MemsTech contends: "The combinations claimed in claims 1 and 2 of the '231 patent include only well known prior art elements, and there is *no evidence* that the claimed combinations yield anything other than a predictable result." Appellant's Br. at 59; *see also id.* at 61 (making the same arguments regarding the '089 patent). Yet MemsTech, as the accused infringer, bears

the burden of producing evidence demonstrating obviousness. *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 308 F.3d 1167, 1187 (Fed. Cir. 2002) (“[A] party seeking a judgment that a patent is obvious bears the burden of demonstrating by clear and convincing evidence that the teachings of the prior art would have suggested the claimed subject matter to one of ordinary skill in the art.”). Memstech has not met that burden here. In sum, the Commission correctly followed the framework for applying the statutory language of § 103, *KSR*, 550 U.S. 406-07, and did not err by concluding that the asserted claims were nonobvious over the cited prior art references.

#### IV. The Domestic Industry Requirement for the '089 Patent

A requirement for a patent-based action under 19 U.S.C. § 1337 is that a domestic industry “relating to the articles protected by the patent . . . exists or is in the process of being established.” 19 U.S.C. § 1337(a)(2); *see also Alloc, Inc. v. Int’l Trade Comm’n*, 342 F.3d 1361, 1375 (Fed. Cir. 2003). The determination whether an industry relates to a protected product is referred to as the “technical prong” of the domestic industry requirement. *Id.* To meet the technical prong, the domestic product must be covered by the asserted claims; “the test ‘is essentially the same as that for infringement, i.e., a comparison of domestic products to the asserted claims.’” *OSRAM*, 505 F.3d at 1359 (quoting *Alloc*, 342 F.3d at 1375)).

Memstech argues that Knowles fails to satisfy the technical prong of the domestic industry requirement for the '089 patent. As the Commission and Knowles correctly point out, however, Memstech’s argument is based solely on its contention that the Commission legally erred in its construction of the claim terms “electrically coupled”

and “volume.” As we explained above, the Commission did not legally err in its construction of these terms. We therefore reject Memstech’s argument on this issue.

#### V. The Commission’s Determination Regarding the “Chamber Chip” Products

Memstech raises an additional issue regarding a modified configuration of its products, referred to as the “chamber chip” products. In his Initial Determination, the ALJ concluded that Memstech’s chamber-chip products were “not properly before me,” and thus “are not part of this investigation.” J.A. 42 n.2, J.A. 252 n.33. However, the Commission, in its opinion dated June 12, 2009, stated that the chamber-chip products “should not be covered by the Commission exclusion order.” J.A. 327. Pursuant to 19 C.F.R. § 210.47, Knowles requested reconsideration of the chamber-chip issue in the Commission’s order, and Memstech opposed. The Commission granted the request for reconsideration, and, in its revised opinion dated August 19, 2009, wrote:

With respect to Memstech’s “chamber chip” products, pursuant to Commission practice we are not making a finding as to whether particular products not considered by the ALJ are or are not within the scope of the order, but note that the order generally covers products that infringe the relevant patent claims.

J.A. 357. On appeal, Memstech contends that the Commission violated its duty under the APA by granting Knowles’ petition for reconsideration under Rule 210.47. The Commission and Knowles disagree.<sup>8</sup>

---

<sup>8</sup> At oral argument, counsel for Knowles contended that the proper mechanism for determining whether Memstech’s chamber-chip products are within the scope

Under the APA, “[t]he reviewing court shall . . . hold unlawful and set aside agency action, findings, and conclusions found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. § 706(2)(A) (2006). The scope of our review under an arbitrary and capricious standard is narrow; we may not substitute our judgment for that of the agency. *Burandt v. Dudas*, 528 F.3d 1329, 1332 (Fed. Cir. 2008). In reviewing an agency decision, we “must consider whether the decision was based on a consideration of the relevant factors and whether there has been a clear error of judgment.” *Id.* (quoting *Bowman Transp., Inc. v. Ark.-Best Freight Sys., Inc.*, 419 U.S. 281, 285 (1974)). “An abuse of discretion occurs where the decision is based on an erroneous interpretation of the law, on factual findings that are not supported by substantial evidence, or represents an unreasonable judgment in weighing relevant factors.” *Star Fruits S.N.C. v. United States*, 393 F.3d 1277, 1281 (Fed. Cir. 2005).

We conclude that the Commission did not violate the APA by granting Knowles’ petition for reconsideration. Rule 210.47 requires that a petition for reconsideration be confined to new questions raised by the determination or action at issue upon which the petitioner had no opportunity to submit arguments. The Commission’s opinion dated June 12, 2009, determined for the first time that the chamber-chip products “should not be covered by the Commission exclusion order.” Thus, it presented a new question upon which Knowles had no previous opportunity to submit arguments. Accordingly, the Commission’s

---

of the Commission’s limited exclusion order is to seek an advisory opinion under 19 C.F.R. § 210.79 or a modification of the order under 19 C.F.R. § 210.76. Oral arg. at 30:00-31:15, *available at* <http://oralarguments.cafc.uscourts.gov/Audiomp3/2010-1018.mp3>.

decision to grant the petition under Rule 210.47 was not arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with the law. *See* 5 U.S.C. § 706(2)(A). We reject Memstech's argument that the Commission violated the APA by granting Knowles' petition.

#### CONCLUSION

For the foregoing reasons, we affirm the Commission's final determination of a violation of § 337.

**AFFIRMED.**