

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PRESIDIO COMPONENTS, INC.,
Petitioner,

v.

AVX CORPORATION,
Patent Owner.

Case IPR2015-01332
Patent 6,144,547

Before MITCHELL G. WEATHERLY, MATTHEW R. CLEMENTS, and
CHRISTOPHER G. PAULRAJ, *Administrative Patent Judges*.

CLEMENTS, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Presidio Components, Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–18 (“the challenged claims”) of U.S. Patent No. 6,144,547 (Ex. 1001, “the ’547 patent”). Paper 1 (“Pet.”). AVX Corporation (“Patent Owner”) filed a Preliminary Response. Paper 14 (“Prelim. Resp.”). On December 10, 2015, we instituted an *inter partes* review of claims 1–5 and 7–12 (“the instituted claims”) of the ’547 patent on certain grounds of unpatentability alleged in the Petition. Paper 15 (“Dec. to Inst.” or “Inst. Dec”).

After institution of trial, Patent Owner filed a Patent Owner Response (Paper 23, “PO Resp.”) to which Petitioner filed a Reply (Paper 25, “Reply”).

We held a joint hearing of this case and several other related cases on August 10, 2016. Paper 42 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 6(c). This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons that follow, we determine that Petitioner has not shown, by a preponderance of the evidence, that claims 1–5 and 7–12 of the ’547 patent are unpatentable.

A. *Related Proceedings*

The ’547 patent is involved in *American Technical Ceramics Corp. v. Presidio Components, Inc.*, No. 2:14-cv-06544 (E.D.N.Y.). Pet. 2; Paper 7, 2.

B. The '547 patent

The '547 patent relates generally to a surface mount capacitor. Ex. 1001, Title, 1:11–15. Specifically, the '547 patent describes a device body having substantially L-shaped terminations. Figures 3 and 4 are reproduced below.

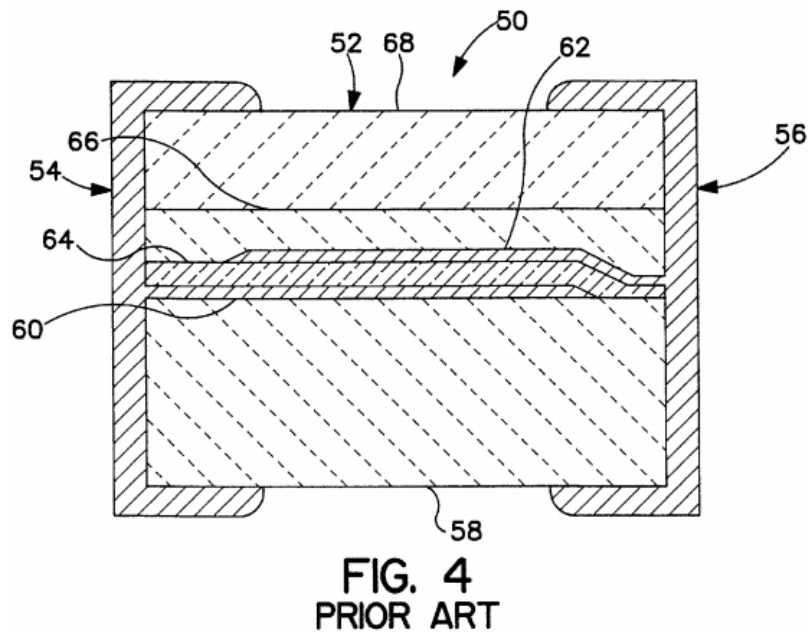
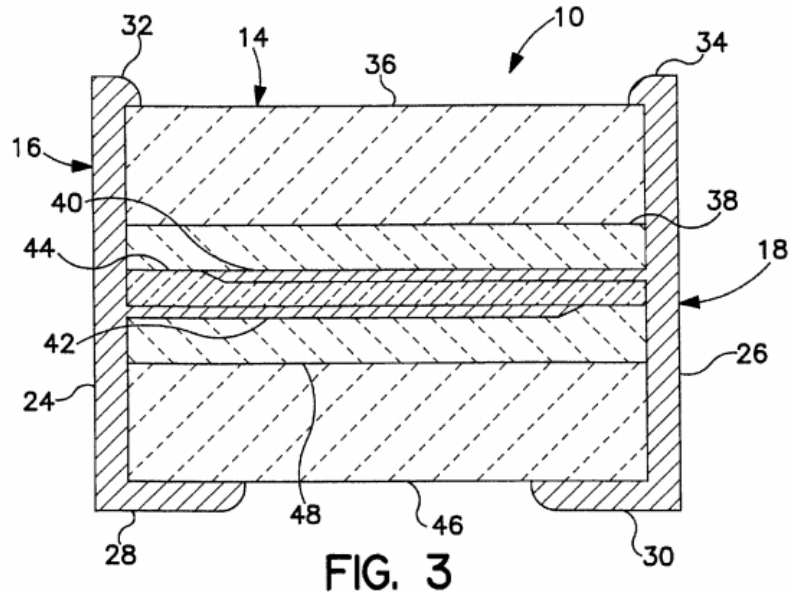


Figure 3 is a cross-sectional view of a surface mount capacitor device described in the '547 patent. *Id.* at 2:22–23. Figure 4 is a cross-sectional view of a prior

art device. *Id.* at 2:24–25. In capacitor 10, unlike in prior art capacitor 50, “[t]he ‘top’ lands 32 and 34 are due to solder creep during the manufacturing process, and typically will not have a width exceeding 0.05 mm. As such, the top lands can generally be neglected.” *Id.* at 3:9–12. “The L-shaped termination structure utilized in exemplary embodiments reduces shorting that could otherwise occur during the surface mounting process.” *Id.* at 2:51–53.

C. Illustrative Claim

Of the instituted claims, claims 1 and 12 are independent. Claim 1 is reproduced below:

1. A thin film capacitor device for mounting to a surface, said capacitor device comprising a device body having small dimensions in length, width and height, and having substantially L-shaped terminations located thereon with portions of said terminations extending over a bottom surface of said device body and negligibly over a top surface of said device body, said device body including:
 - an insulating substrate having a top surface and a bottom surface;
 - a first conductive pattern located above said top surface of said substrate and defining a first polarity capacitor plate;
 - a dielectric layer located on top of said first conductive pattern;
 - a second conductive pattern located on said dielectric layer, said second conductive pattern defining a second capacitor plate in registry with said first capacitor plate; and
 - a planar cover layer located above said second conductive pattern.

Ex. 1001, 6:13–32.

D. Evidence Relied Upon

Petitioner relies upon the following references:

Galvagni	US 5,569,880	Oct. 29, 1996	Ex. 1002
TDK Product Selection Guide, 1997; AVX/Kyocera Electronic Components & Devices, 1996; Murata Chip Monolithic Ceramic Capacitor, Sept. 30, 1997; Taiyo Yuden General Catalog for Oct. 1996 to Sept. 1997, Oct. 1996 (“Product Catalogues”)			Ex. 1008
Multilayer Ceramic Capacitors, Oct. 1997 (“MCC”)			Ex. 1012

Pet. 3–4. Petitioner also relies upon the Corrected Declaration of Michael Randall, Ph.D. (“Randall Decl.”) (Ex. 1009).

E. The Instituted Grounds of Unpatentability

We instituted *inter partes* review of the ’547 patent based upon the following grounds (Dec. to Inst. 41):

References	Basis	Claims challenged
Galvagni	§ 103	1, 3–5, and 12
Galvagni and MCC	§ 103	3, 4, and 12
Galvagni and the Product Catalogues	§ 103	3
APA and Galvagni	§ 103	1–3, 5, and 7–11
APA, Galvagni, and the Product Catalogues	§ 103	3

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, claim terms in an unexpired patent are interpreted according to their “broadest reasonable construction in light of the specification of the patent” in which they appear. 37 C.F.R. § 42.100(b). Applying that standard, we interpret the claim terms according to their ordinary and customary meaning, as would be understood by one of ordinary

skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007).

In our Decision on Institution, we construed the phrase “negligibly over the top surface” (independent claims 1 and 12) to mean “a small amount of material is formed on the top surface.” Dec. to Inst. 7–9. Neither party disputes our determination or proposes additional terms for construction. Based on the record developed during this proceeding, we maintain this construction.

B. Whether Petitioner’s Reply Contained New Arguments

Patent Owner filed, with authorization, an identification of portions of Petitioner’s Reply and of Dr. Randall’s Reply Declaration that, it alleged, advanced a new theory of unpatentability not argued in the Petition. Paper 30. Specifically, Patent Owner identified portions of Petitioner’s Reply that rely upon claim 1 of Galvagni, which recites “the portions of said terminations overlying said top and bottom surfaces,” as evidence that Galvagni expressly discloses “portions of said terminations . . . extending negligibly over a top surface.” *Id.* at 2. Petitioner filed, with authorization, a Response arguing that its reliance on claim 1 was a proper response to Patent Owner’s argument that Galvagni teaches away from terminations extending over a top surface. Paper 31.

In the Petition, Petitioner argued that Galvagni anticipated claim 1 of the ’547 patent, but did not rely upon claim 1 of Galvagni. *See* Pet. 12–22. We, therefore, do not consider claim 1 when assessing Petitioner’s case for the unpatentability of claims 1–5 and 7–12. *See In re Nuvasive, Inc.*, Nos. 2015-01672, 2015-1673, slip op. at 11–13 (Fed. Cir. Nov. 9, 2016). We agree with Petitioner, however, that its reliance upon claim 1 of Galvagni is

appropriate rebuttal to Patent Owner's argument that Galvagni teaches away from terminations extending over a top surface. As a result, we decline to strike the arguments and evidence identified by Patent Owner.

*C. Claims 1, 3–5, and 12 —
Obviousness over Galvagni (Ground 1)*

Petitioner contends that claims 1, 3–5, and 12 are unpatentable under 35 U.S.C. § 103(a) as obvious over Galvagni. Pet. 12–22. For the reasons explained below, Petitioner has not established, by a preponderance of the evidence, that claims 1, 3–5, and 12 would have been obvious over Galvagni.

1. Galvagni (Exhibit 1002)

Galvagni describes a miniaturized, surface-mountable, tombstoning-resistant electronic component. Ex. 1002, Abstract. "Tombstoning" is described in Galvagni as follows:

The term tombstoning is applied to the phenomenon of a component, the opposed terminations of which should each be bonded to a terminal pad, of the PC board becoming shifted upon melting of the solder in such manner that the component stands on end like a tombstone with one termination of the component soldered to one of the pads, the other termination being vertically spaced from the PC board and pad, the component thus being excluded from the circuit.

It is theorized that tombstoning results from the surface tension effects of the melting solder on the low mass component, and specifically on molten solder flowing along the end portion of the component to a greater degree at one end than at the other end. As a result, surface tension effects tend to draw that edge of the component downwardly resulting in a pivoting of the component about an axis parallel to the plane of the PC board resulting in the component being disposed in an upright or

partly upright condition relative to the board rather than parallel to the board.

Id. at 1:53–2:6.

Figure 3 of Galvagni is reproduced below.

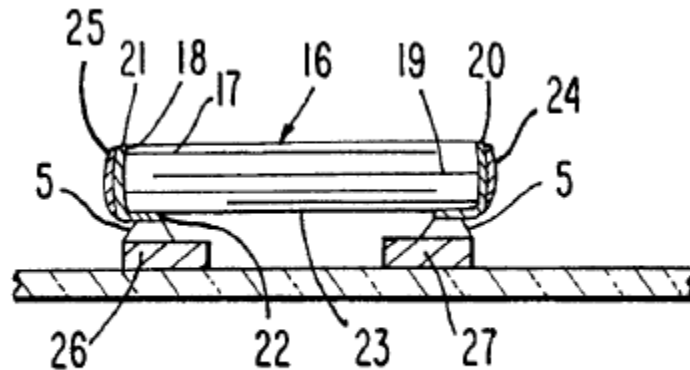


FIG. 3

Figure 3 depicts a cross-section of a capacitor incorporating the termination structure disclosed in Galvagni. *Id.* at 3:55–57. Termination 21 is “generally L-shaped” and termination 20 is “a J-shape mirror image” of termination 21. *Id.* at 4:56–65. Although layers 20 and 21 are “solder receptive material,” they are vapor deposited onto the ends of capacitor 16. *Id.* at 4:54–57. Terminations 20 and 21 are over-coated with “non-solder wettable metal” coating 24 and 25, respectively. *Id.* at 4:66–5:2. Because coatings 24 and 25 are resistant to connection to the solder, there is no tendency to tombstone. *Id.* at 5:11–13.

2. Analysis

The preamble of independent claim 1 recites “substantially L-shaped terminations . . . with portions . . . extending . . . negligibly over a top surface of said device body.” As discussed above, we construe this phrase to require that “a small amount of material is formed on the top surface.”

Petitioner relies upon Galvagni’s terminations 21 and 24. Pet. 12–17, 20.

Galvagni's terminations 21 and 24 are described as "L-shaped" and "J-shaped," respectively, but are depicted with no portion extending over the top surface of the device body 16. Ex. 1002, 4:47–65, Fig. 3. Dr. Randall testifies, however, that a person of ordinary skill in the art would have known how to, and had reason to, Harperize the capacitor taught by Galvagni in a way that would necessarily result in "portions of said terminations . . . extending negligibly over a top surface." Ex. 1009 ¶ 82. With respect to *why* a person of ordinary skill in the art would have Harperized the capacitor of Galvagni, the Petition states,

To explain, miniature surface mount components are typically exposed to a "Harperizing" or a corner rounding process as a part of production. (Ex. 1009, at ¶ 82). The "Harperizing" process is understood by one of ordinary skill in the art, and was so known prior to November 1997. *Id.* This serves multiple purposes of at least reducing chip-outs, reducing tooling wear, and enabling edge and corner coverage of terminations. *Id.* at ¶¶ 83-84.

Pet. 13–14. Petitioner further argues that a person of ordinary skill in the art would have recognized that terminations extending negligibly over the top are advantageous for the in-circuit testing taught in Galvagni (Ex. 1002, 3:5–20, 6:20–30) because they make it easier to access the capacitor (*id.* at 17 (citing Randall Decl. ¶ 91)).

Patent Owner argues that a person of ordinary skill in the art would *not* have Harperized Galvagni's capacitor for several reasons. PO Resp. 22–37. After reviewing the record in total, the arguments and evidence presented by both parties, and the prior art itself, we find that Petitioner has not shown a sufficient reason for a person of ordinary skill in the art to have Harperized the capacitor taught in Galvagni. We address each of Patent Owner's arguments in turn.

a. Whether Harperizing was “typical”

Patent Owner argues that Petitioner provides no evidence in support of its allegation that miniature surface mount components are “typically” exposed to Harperizing as part of production. PO Resp. 22–23. In the Petition, Petitioner relies solely on paragraph 82 of Dr. Randall’s Declaration, which largely repeats the language of the Petition, but also cites col. 10, lines 8–25, of U.S. Patent 4,819,128 to Florian et al (“Florian”). Pet. 14 (citing Randall Decl. ¶ 82); Randall Decl. ¶ 82. In the Reply, Petitioner relies upon the same evidence. Pet. Reply 6.

The cited portion of Florian does not teach, however, that Harperizing, or “corner rounding,” is typical. It merely describes one exemplary capacitor manufacturing process in which “the surfaces are cleaned of adhering lead contaminations and the edges and corners are eroded, i.e., rounded off, so that after the scrubbing the inside electrodes . . . are made substantially flush to the end faces of the monolithic ceramic body.” Florian, 10:16–22. On the other hand, Patent Owner’s expert, Dr. Shanfield, testifies that “Galvagni does not Harperize or corner round its components,” and that “a person of ordinary skill in the art would have avoided Harperization not least because it would have added processing time to an already labor-intensive process of Galvagni that could lead to longer cycle time, as well as dimensional variability that could lead to lower yield.”) Shanfield Decl. ¶¶ 71–72; *see also id.* at ¶ 73 (not Harperizing to contain or reduce manufacturing cost). On this record, we credit the testimony of Dr. Shanfield. We are not persuaded that a person of ordinary skill in the art would have understood that it was “typical” to Harperize the

ends 18 of capacitor 16 taught in Galvagni prior to the vapor deposition of layer 21 illustrated in Figure 4 of Galvagni.

b. Chip-outs, tooling wear, and edge/corner coverage

Patent Owner argues, relying upon Dr. Shanfield's testimony, that Galvagni's vapor deposited terminations would have good edge and corner coverage and, therefore, not require Harperizing. PO Resp. 23–24 (citing Ex. 2010 ¶¶ 74, 78, 80). In its Reply, Petitioner does not specifically address these arguments. See Pet. Reply 6–10. Petitioner asserts only that “despite any costs and drawbacks alleged by Patent Owner,” Harperizing “serves multiple purposes of at least reducing chip-outs, reducing tool wear, and enabling edge and corner coverage of terminations.” *Id.* at 9 (citing Ex. 1009 ¶ 83; Ex. 1015 ¶ 25).

The cited testimony of Dr. Randall does not address, however, whether these “multiple purposes” apply to vapor deposited terminations such as those taught in Galvagni. Indeed, Dr. Randall conceded in cross-examination that he had not worked on thin-film terminations such as those taught in Galvagni. Ex. 2009, 208:11–22. Against this backdrop, Patent Owner's expert, Dr. Shanfield, testified that “a person of ordinary skill in the art would have avoided Harperization not least because it would have added processing time to an already labor-intensive process of Galvagni that could lead to longer cycle time, as well as dimensional variability that could lead to lower yield.” Shanfield Decl. ¶¶ 71–72; *see also id.* at ¶ 73 (testifying that a person of ordinary skill in the art would avoid unnecessary steps in order to contain or reduce manufacturing cost of the product). After weighing the testimony of both experts, we are not persuaded that a person

of ordinary skill in the art would have been motivated by the benefits identified by Petitioner to Harperize the ends 18 of Galvagni's capacitor 16.

c. In-circuit testing

Patent Owner argues that a person of ordinary skill in the art would not have been motivated by in-circuit testing to extend the terminations taught in Galvagni negligibly over a top surface. PO Resp. 32–34. Specifically, Patent Owner argues that a negligible extension on the top surface is too small to ensure reliable contact for testing because testing probes would have been larger than a likely dimension of any negligibly extending top termination. *Id.* at 32–33 (citing Ex. 2010 ¶¶ 97–98). Patent Owner also argues:

Moreover, in-circuit testing of *individual components* was not a typical practice of a POSA at the time of the invention. *Id.* at ¶ 99. Rather, a more typical practice was to test portions of a circuit consisting of small groups of components, like capacitors, resistors, etc. *Id.* In conducting such tests, probes would typically be directed to testing nodes or targets on the PCB [printed circuit board] instead of the end terminals of individual components. *Id.* Contacting individual component end terminals was avoided so as to reduce a risk of damage to a component from the probe. *Id.* Accordingly, the contended advantage for extending the terminations of Galvagni onto the top surface would actually have served no practical purpose to a POSA. *Id.*

Id. at 33.

Petitioner counters that testing probes would not have been larger than a likely dimension of a negligible top termination because commercially available probes were 0.05 mm, which “is the precise size of the negligible amount of termination disclosed in the ’547 patent.” Pet. Reply 14.

Petitioner also argues that a negligible termination on a top surface would

enable testing of individual components “in a manner that minimizes wasted [printed circuit board] space.” Pet. Reply 15. Petitioner does not address Patent Owner’s arguments about in-circuit testing groups of components, rather than individual components, relying instead upon Galvagni’s teaching of in-circuit testing of individual components. *Id.* at 15 (citing Ex. 1002, 3:7–10 (“It is important to note that the ends of the component (non-wettable but conductive metal) may still be accessed to enable in-circuit testing of the individual components after they have been attached to the PC board.”), 6:24–30 (“Since the end surfaces of the component are conductive, these surfaces are accessible for testing even though the PC pads may be shielded by the component. The termination structure enables optimal use of PC surface area enabling a larger number of components to be mounted in a given surface area.”)).

On this issue, we agree with Patent Owner. Galvagni’s teachings of in-circuit testing of individual components are limited to using the *ends*, not the tops, of those components. Ex. 1002, 3:7–10, 6:24–30. Petitioner’s argument that testing probes of 0.05 mm were commercially available is not persuasive because Petitioner makes a comparison only to the dimensions taught in the ’547 patent without providing sufficient evidence that any negligible termination resulting from Harperization of Galvagni’s capacitor would *also* have been 0.05 mm. Even if it were, any negligible termination on a top surface of Galvagni’s capacitor would be very small relative to the *end* surface of Galvagni’s capacitor, and, therefore, would not “make it easier to access the capacitor for in-circuit test” (Pet. 17). Finally, even assuming Petitioner is right that a person of ordinary skill in the art would have been motivated to “test the individual components in a manner that

minimizes wasted PCB (printed circuit board) space” (Pet. 15), Petitioner has not presented persuasive evidence that such a person would have valued that factor more highly than the other considerations identified by Dr. Shanfield—i.e., (1) the efficiency of testing groups of components rather than individual components, or (2) using pads on the PCB to reduce the risk of damage to components. After weighing the arguments and evidence, including the testimony of both parties’ experts, we are not persuaded that a person of ordinary skill in the art would have been motivated by the purported advantages for in-circuit testing to modify Galvagni’s capacitor 16 to include terminations extending negligibly over a top surface.

d. Whether Galvagni teaches away

Finally, the parties dispute whether Galvagni “teaches away” from extending terminations negligibly over a top surface. Patent Owner argues that “a [person of ordinary skill in the art] would have been led away from both (1) Harperizing capacitors for use with the termination process of Galvagni and (2) extending the terminations of Galvagni ‘negligibly over a top surface’ of a capacitor because such modifications would exacerbate tombstoning” (PO Resp. 24) by “lead[ing] to an exposed solder-wettable layer” (*id.* at 32). Petitioner counters that Galvagni cannot teach away from terminations extending negligibly over a top surface because it claims that expressly in claim 1, which recites “the portions of said termination coating overlying said top *and* bottom surfaces.” Pet. Reply 5–6 (quoting Ex. 1002, 6:40–50). At the hearing, counsel for Patent Owner argued that “[c]laim 1 bears no support in the specification or the figure of . . . Galvagni.” Tr. 99:22–25; *see also id.* at 100:1–102:19. Counsel for Petitioner countered that “[t]here is an express disclosure, and it is undeniable, that the portions

of said termination coating overly[] said top and bottom surfaces.” *Id.* at 127:8–10.

We need not reach the issue of whether Galvagni “teaches away” from extending terminations negligibly over a top surface because, even assuming that it does not, we still are not persuaded that Petitioner has provided the necessary articulated reasoning with rational underpinning to support its legal conclusion of obviousness. *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006).

3. Conclusion

Petitioner has not established, by a preponderance of the evidence, that claims 1, 3–5, and 12 are unpatentable as obvious over Galvagni.

D. Claims 3, 4, and 12 — Obviousness over Galvagni and MCC (Ground 2)

Petitioner contends that claims 3, 4, and 12 are unpatentable under 35 U.S.C. § 103(a) as obvious over Galvagni and MCC. Pet. 22–24.¹ In light of the arguments and evidence of record, Petitioner has not established, by a preponderance of the evidence, that claims 3, 4, and 12 are unpatentable as obvious over Galvagni and MCC.

1. MCC (Ex. 1012)

MCC describes trends in the manufacturing of multilayer ceramic capacitors. Ex. 1012, 584. MCC states:

Currently the major chip size is EIA 0603 size (1.6×0.8×0.8mm) which is replacing the 0805 size (2.0×1.2×1.2 mm) as the front runner. Production of the even smaller 0402

¹ Petitioner lists claims 1, 3–6, and 12 as challenged (Pet. 22), but analyzes, in this ground, only claims 3, 4, and 12 (*id.* at 23).

(1.0×0.5×0.5 mm) is increasing rapidly for telecommunications equipment. The smallest chip sizes of 0201 (0.6×0.3×0.3 mm) and 0202 (0.6×0.6×0.3 mm) were developed in 1996. This 0201 capacitor will be the minimum size which can be handled by normal assembly methods.

Ex. 1012, 585.

2. Analysis

Claims 3, 4, and 12 include limitations directed generally to dimensions of the device body. Claim 3 depends from claim 1 and recites “wherein said device body has a size of 0402 or less.” Claim 4 depends from claim 3 and further recites “wherein said device body has a nominal height of no greater than about 0.40 mm.” Independent claim 12 recites “a device body of a small size no greater than 0402 and a nominal height of no greater than about 0.40 mm.”

Petitioner relies upon MCC only to teach the size limitations recited in claims 3, 4, and 12, and otherwise relies upon its analysis of Galvagni with respect to the other limitations, including “portions of said terminations . . . extending negligibly over a top surface.” Pet. 22–23. As discussed above, we are not persuaded that Galvagni teaches or suggests “portions of said terminations . . . extending negligibly over a top surface.” As a result, Petitioner’s analysis for claims 3, 4, and 12 suffers from the same shortcomings discussed above.

3. Conclusion

Petitioner has not established, by a preponderance of the evidence, that claims 3, 4 and 12 are unpatentable as obvious over the combination of Galvagni and MCC.

*E. Claim 3 — Obviousness over Galvagni and
the Product Catalogues (Ground 3)*

Petitioner contends that claims 3 is unpatentable under 35 U.S.C. § 103(a) as obvious over Galvagni and the Product Catalogues. Pet. 24–26. In light of the arguments and evidence of record, Petitioner has not established, by a preponderance of the evidence, that claim 3 is unpatentable as obvious over Galvagni and the Product Catalogues.

1. Product Catalogues (Ex. 1008)

The Product Catalogues list resistors and capacitors that were commercially available at the time of publication. Ex. 1008.²

2. Analysis

Claim 3 depends from claim 1 and recites “wherein said device body has a size of 0402 or less.” Petitioner contends that the Product Catalogues teach “multilayer ceramic chip capacitors . . . each of which are 0402 size capacitors.” Pet. 24–25 (citing Ex. 1008, 4–5, 10–12, 71–73, 160–161, 169–

² Prior to institution, Patent Owner objected to the TDK Product Selection Guide (Ex. 1008, 198–260) and the Taiyo Yuden Catalogue (*id.* at 157–185) because they are foreign language publications for which no certified English translation was provided. Prelim. Resp. 18 n.3. A translation into English of documents in languages other than English and an affidavit attesting to the accuracy of the translation are required under 37 C.F.R. § 42.63(b). Based on our review, the Taiyo Yuden Catalogue appears to provide the English-language counterpart for all of its Japanese-language description. We therefore consider the Taiyo Yuden Catalogue based on its English-language disclosure. The TDK Product Selection Guide, in contrast, appears to provide the English-language counterpart for only some of its Japanese-language description. We therefore did not consider that portion of Exhibit 1008 for purposes of our Decision on Institution, and we do not consider it for purposes of this Decision.

171, 177–179, and 183–186; Randall Decl. ¶ 127). The Murata catalog, for example, discloses a GRM36 capacitor in size “(0402).” Ex. 1008, 71.

Petitioner relies upon the Product Catalogues only to teach the size limitations recited in claim 3, and otherwise relies upon its analysis of Galvagni with respect to claim 1, from which claim 3 depends. Pet. 24–26. As discussed above, however, we are not persuaded that Galvagni teaches or suggests “portions of said terminations . . . extending negligibly over a top surface” as recited by claim 1. As a result, Petitioner’s analysis for claim 3 suffers from the same shortcomings discussed above.

3. Conclusion

On this record, Petitioner has not established, by a preponderance of the evidence, that claim 3 is unpatentable as obvious over the combination of Galvagni and the Product Catalogues.

F. Claims 1–3, 5, and 7–11 — Obviousness over APA and Galvagni (Ground 5)

Petitioner argues that claims 1–3, 5, and 7–11 are unpatentable under 35 U.S.C. § 103(a) as obvious over APA and Galvagni. Pet. 36–39 (incorporating Petitioner’s analysis at pages 26–36 of the Petition). In light of the arguments and evidence of record, Petitioner has not established, by a preponderance of the evidence, that claims 1–3, 5, and 7–11 are unpatentable as obvious over APA and Galvagni.

1. Analysis

For independent claim 1, for example, Petitioner argues that “Galvagni discloses the preamble of claim 1 of the ‘547 patent, the only feature not disclosed in Admitted Prior Art, Figure 4.” Pet. 37. As discussed above, however, we are not persuaded that Galvagni teaches or

suggests “portions of said terminations . . . extending negligibly over a top surface” as recited by claim 1. Petitioner’s analysis for this ground therefore suffers from the same shortcomings discussed above.³

2. Conclusion

Petitioner has not established, by a preponderance of the evidence, that claims 1–3, 5, and 7–11 are unpatentable as obvious over the combination of APA and Galvagni.

G. Claim 3 — Obviousness over APA, Galvagni, and the Product Catalogues (Ground 7)

Petitioner argues that claim 3 is unpatentable under 35 U.S.C. § 103(a) as obvious over APA, Galvagni, and the Product Catalogues. Pet. 40–41. In light of the arguments and evidence of record, Petitioner has not established, by a preponderance of the evidence, that claim 3 is unpatentable as obvious over APA, Galvagni, and the Product Catalogues.

1. Analysis

Petitioner relies upon its contentions regarding how the Product Catalogues teach claim 3 as articulated in the ground based upon the combination of Galvagni and the Product Catalogues, and otherwise relies

³ Patent Owner also argues that that APA cannot form a basis under 35 U.S.C. § 311(b) to institute an *inter partes* review. PO Resp. 56–57. We need not reach this issue, however, because even assuming that APA can form a basis on which to institute *inter partes* review, we still are not persuaded that Petitioner has established, by a preponderance of the evidence, that claims 1–3, 5, and 7–11 would have been obvious over the combination of Galvagni and APA.

upon its analysis of Galvagni with respect to claim 1, from which claim 3 depends. Pet. 40–41.

As discussed above, however, we are not persuaded that Galvagni teaches or suggests “portions of said terminations . . . extending negligibly over a top surface” as recited by claim 1. As a result, Petitioner’s analysis for claim 3 suffers from the same shortcomings discussed above.

2. Conclusion

Petitioner has not established, by a preponderance of the evidence, that claim 3 is unpatentable as obvious over the combination of APA, Galvagni, and the Product Catalogues.

III. MOTION FOR OBSERVATION

Patent Owner filed a Motion for Observation on the cross-examination testimony of Petitioner’s expert, Dr. Randall. Paper 36. Petitioner, in turn, filed a Response. Paper 38. We have considered Patent Owner’s observations and Petitioner’s responses in rendering this Final Written Decision, and accorded Dr. Randall’s testimony appropriate weight where necessary.

IV. MOTION TO EXCLUDE

Patent Owner filed a Motion to Exclude (Paper 35), Petitioner filed a Response to Patent Owner’s Motion (Paper 37), and Patent Owner filed a Reply in support of its Motion (Paper 40).

We decline to assess the merits of Patent Owner’s Motion to Exclude. As discussed above, even considering the identified evidence, we have concluded that Petitioner has not demonstrated, by a preponderance of the

evidence, that the challenged claims are unpatentable. Accordingly, Patent Owner's Motion to Exclude is *dismissed* as moot.

V. CONCLUSION

Petitioner has not shown, by a preponderance of the evidence, that claims 1–5 and 7–12 of the '547 patent are unpatentable under 35 U.S.C. § 103.

VI. ORDER

Accordingly, it is

ORDERED that claims 1–5 and 7–12 of the '547 patent have not been shown, by a preponderance of the evidence, to be unpatentable;

FURTHER ORDERED that Patent Owner's Motion for Observation is taken into consideration;

FURTHER ORDERED that Patent Owner's Motion to Exclude is dismissed as moot; and

FURTHER ORDERED that because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

IPR2015-01332
Patent 6,144,547

For PETITIONER:

Brett A Schatz
Gregory F Ahrens
WOOD HERRON & EVANS, LLP
bschatz@whe-law.com
gahrens@whe-law.com

For PATENT OWNER:

Lana Gladstein
NUTTER, MCCLENNEN & FISH LLP
lgladstein@nutter.com