

**UNITED STATES DISTRICT COURT
FOR THE MIDDLE DISTRICT OF NORTH CAROLINA**

FUMA INTERNATIONAL LLC
an Ohio limited liability company

Plaintiff/Counterdefendant, v.

R.J. REYNOLDS VAPOR
COMPANY,
a North Carolina corporation,

Defendant/Counterplaintiff.

Civil Action No. 19-cv-260
[Lead Case]

Civil Action No. 19-cv-660

DEMAND FOR JURY TRIAL

**PLAINTIFF FUMA INTERNATIONAL LLC'S MEMORANDUM OF
LAW IN SUPPORT OF PLAINTIFF'S MOTION FOR SUMMARY
JUDGMENT OF:**

- (I) INFRINGEMENT OF THE '881 PATENT BY DEFENDANT'S
VUSE SOLO AND VUSE CIRO PRODUCTS, AND**
- (II) INFRINGEMENT OF THE '604 PATENT BY DEFENDANT'S
VUSE CIRO PRODUCT**

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I. Nature of the Matter Before the Court

Plaintiff Fuma International LLC (“Fuma”) has moved for summary judgment of patent infringement against defendant R.J. Reynolds Vapor Company (“RJR”). In this case, Fuma alleges that RJR’s Vuse Solo product and Vuse Ciro product infringe both asserted patents in suit. Summary judgment should be granted in Fuma’s favor because there is no genuine dispute of material fact that: (I) claims 1 and 8 of U.S. Patent No. 10,334,881 (“the ‘881 patent”) are literally infringed by both RJR’s Vuse Solo and Vuse Ciro E-Cigarettes, and that (II) claims 4, 6, 12, 14, 16, and 18 of U.S. Patent No. 9,532,604 (“the ‘604 patent”) are literally infringed by RJR’s Vuse Ciro E-Cigarette under this Court’s claim constructions.

II. Statement of the Facts

With fact and expert discovery completed, RJR does not dispute that the Vuse Solo and Vuse Ciro meet almost all claim limitations of the ‘604 and ‘881 patents. RJR’s non-infringement arguments have been reduced to three in total. First, RJR presents a new argument RJR did not present during claim construction proceedings that the “solution holding medium” of the accused devices allegedly has to extend the entire length of the airflow passageway. Second, RJR argues that the “electrically conductive portion” of the asserted claims requires that a single feature perform both the electrical and mechanical coupling of the cartridge to the power source, but that the accused Vuse Solo device has multiple features to perform these functions. Third, and finally, RJR argues that the airflow passageway of the Vuse Ciro allegedly does not extend “in a straight path through the

center of the cartridge from a first opening on the first end to a second opening on the opposite end of the cartridge” as required by the Court’s claim construction. (Dkt. No. 95 at 22). As demonstrated below, these arguments are without merit.

**A. ’881 Patent Limitations at Issue Regarding RJR’s Vuse Solo and Vuse
Ciro E-Cigarettes**

RJR does not dispute that the Vuse Solo and Vuse Ciro practice almost all of the claim elements of the ’881 patent. The Vuse Solo exists in two variants: the Vuse Solo G1 and the Vuse Solo G2. While there are minor physical differences between the two cartridges, RJR’s expert makes no argument that these differences form the basis of any non-infringement argument relating to the ’881 patent. (*See, e.g.*, Ex. A, August 21, 2020, RJR Expert Report at ¶ 27 (“For purposes of my report, the SOLO Gen 1 and Gen 2 are materially the same . . .”) [hereinafter “RJR Rebuttal Report”]). As such, defendant’s Vuse Solo G1 and Vuse Solo G2 meet the limitations of asserted claims 1 and 8 of the ’881 patent in the same way. Fuma’s final infringement contentions and the infringement reports of Fuma’s expert, Dr. Vallee, show how each limitation of the asserted claims of the ’881 patent are met by the Vuse Solo G1, Vuse Solo G2, and the Vuse Ciro. (Ex. B, April 10, 2020 Fuma’s Final Infringement Contentions, ’881 Vuse Solo G2 Claim Chart; Ex. C, May 15, 2020 Fuma’s Final Infringement Contentions, ’881 Vuse Solo G1 Claim Chart; Ex. D, July 23, 2020 Fuma Expert report at ¶¶77-79; Ex. E, July 23, 2020 Fuma Expert Report at ’881 Vuse Solo G1 Claim Chart; Ex. F, July 23, 2020 Fuma Expert Report at ’881 Vuse Solo G2 Claim Chart; Ex. I, April 10, 2020 Fuma’s Final Infringement Contentions, ’881 Vuse Ciro Claim Chart; Ex. K, July 23, 2020 Fuma Expert Report at ’881 Vuse Ciro Claim

Chart). In reviewing the volume of contentions between the parties and respective expert reports, Fuma’s expert was able to summarize the only remaining elements that RJR argues their products do not meet:

Collins ’881 Patent Non-Infringement Arguments by Limitation		
<u>Vuse Solo G1</u>	<u>Vuse Solo G2</u>	<u>Vuse Ciro</u>
“electrically conductive portion” (Claims 1, 8)	“electrically conductive portion” (Claims 1, 8)	
The solution holding medium does not extend the entire length of the airflow passageway (Claims 1, 8)	The solution holding medium does not extend the entire length of the airflow passageway (Claims 1, 8)	The solution holding medium does not extend the entire length of the airflow passageway (Claims 1, 8)
		“airflow passageway” (Claims 1, 8)

(Ex. G, September 4, 2020 Fuma Reply Expert Report at 20).

B. ’604 Patent Limitations at Issue Regarding RJR’s Vuse Ciro E-Cigarette

As with the ’881 patent, RJR does not dispute that the Vuse Ciro practices almost all of the claim elements of the ’604 patent. Fuma’s final infringement contentions and the infringement reports of Fuma’s expert, Dr. Vallee, show how each limitation of the asserted claims of the ’604 patent are met by the Vuse Ciro. (Ex. H, April 10, 2020 Fuma’s Final Infringement Contentions, ’604 Vuse Ciro Claim Chart; Ex. D, July 23, 2020 Fuma Expert report at ¶¶77-79; Ex. J, July 23, 2020 Fuma Expert Report at ’604 Vuse Ciro Claim Chart). Fuma’s expert was able to summarize the only remaining elements of the asserted claims of the ’604 patent that RJR argues are absent in the Vuse Ciro product:

Vuse Ciro ('604 Patent)

The solution holding medium does not extend the entire length of the airflow passageway (Claims 1, 12)
“airflow passageway” (Claims 1, 12)

(Ex. G, September 4, 2020 Fuma Reply Expert Report at 19-20). Notably, the distinctions RJR attempts to make with regard to the Vuse Ciro and the '604 patent are the same as those made for the '881 patent as shown in the previous section. Furthermore, RJR's proposed “solution holding medium” distinction is the same distinction argued for the '881 patent claims.

III. Questions Presented

- 1) Does the '604 or '881 patents require that the “solution holding medium” extend the entire length or the airflow passageway? Answer: no.
- 2) Is the claimed “electrically conductive portion” of the '881 patent required to have only one feature that both electrically and mechanically couples. Answer: no. The claimed “electrically conductive portion” can have multiple features to accomplish the mechanical and electrical coupling functions.

- 3) Does the accused “airflow passageway” of the Vuse Ciro extend “in a straight path through the center of the cartridge from a first opening on the first end to a second opening on the opposite end of the cartridge” as required by the Court’s Claim Construction of that term? (Dkt. No. 95 at 22). Answer: yes.

With these straightforward answers to the above questions, all of RJR’s non-infringement contentions at issue in this motion fail.

IV. Legal Standards for Summary Adjudication of Infringement

Summary judgment should be granted when the movant shows there is no genuine dispute of material fact and it is entitled to judgment as a matter of law. Fed. R. Civ. P. 56. A “material fact” is one that “might affect the outcome of the suit under the governing law,” and a “genuine issue” exists over a material fact only “if the evidence is such that a reasonable jury could return a verdict for the nonmoving party.” *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986).

In a suit for patent infringement, the patent owner must demonstrate infringement by a preponderance of the evidence. *Warner-Lambert Co. v. Teva Pharms. USA, Inc.*, 418 F.3d 1326, 1341 n.15 (Fed. Cir. 2005). An entity directly and literally infringes a patent claim under 35 U.S.C. § 271(a), if the infringer, without authority, makes, uses, offers to sell, or sells the patented invention within the United States.

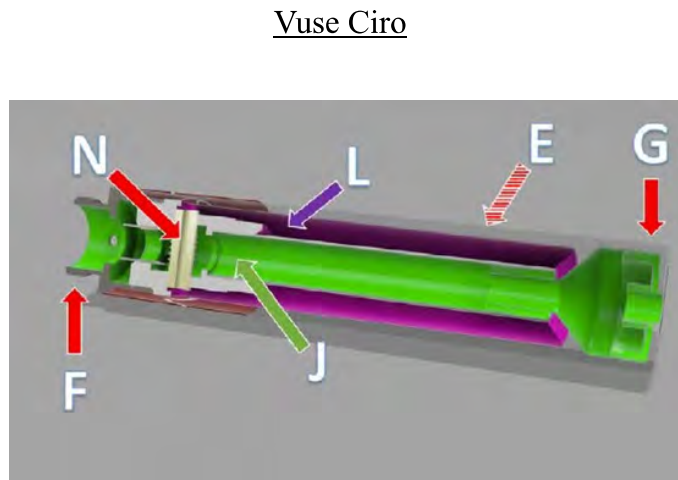
In assessing infringement in the context of a summary judgment motion, courts first “construe[] the disputed claim terms and then compare[] the properly construed claims to the accused [product].” *Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d

1354, 1360 (Fed. Cir. 2004). This Court issued its Claim Construction Order on March 23, 2020. (Dkt. No. 95). Fuma’s burden is to show, by a preponderance of the evidence, that the Defendant’s accused products embody all of the elements of the asserted claims as construed, and that no reasonable fact finder could conclude otherwise. *Seal-Flex, Inc. v. Athletic Track & Court Constr.*, 172 F.3d 836, 842 (Fed. Cir. 1999).

V. RJR’s Non-Infringement Arguments Should be Rejected

A. Neither the ’604 or ’881 patents require that the “solution holding medium” extends the entire length of the airflow passageway.

Claim 1 of the ’604 patent requires a device where the “solution holding medium [L] surrounds the airflow passageway [J] in the interior of the housing [E] and intermediate of the first end [F] and the second end [G].” (’604 at Claim 1 (bracketed letters added to correspond to below figures)). Claim 1 of the ’881 patent also requires “the solution holding medium [L] surrounds the airflow passageway [J] and the heating element [N] in the interior of the housing [E] and intermediate of the first end [F] and the second end [G].” (’881 at Claim 1 (bracketed letters added to correspond to below figures)). The Vuse Solo (left) and Vuse Ciro (right) meet these limitations as shown below, with the solution holding medium denoted by the letter ‘L’ and the airflow passageway denoted by the letter ‘J’ and also highlighted in green for the Vuse Ciro. In the Vuse Solo, the solution holding medium [L] uses a batting material to absorb e-liquid, whereas the Vuse Ciro’s solution holding medium [L] uses a hollow space, i.e. a chamber or reservoir, that holds the e-liquid (highlighted in purple):



(Ex. B at 12; Ex. I at 12. *See also* Ex. G, Fuma Reply Expert Report at ¶¶ 48-51 (Solo); *Id.* at ¶ 82 (Ciro)).

RJR contends that the above-cited language of the asserted claims requires that the solution holding medium surrounds the airflow passageway along its entire length, even though that is not required by the plain meaning of the claims or shown in the '604 or '881 patents' preferred embodiments. Notably, RJR failed to raise this argument during the Court's claim construction proceedings. (*See generally*, Dkt. No. 95, Claim Construction Order and related briefing at Dkt. Nos. 82, 83, 89, 90 (having no mention about the solution holding medium surrounding the airflow passageway along its entire length); Dkt. No. 81, Joint Claim Construction Statement (same)). In fact, RJR's expert recognized that RJR did not seek this claim construction and that the Court did not provide this claim construction. He devoted only a few sentences to this argument in his 200-page rebuttal report on infringement, writing:

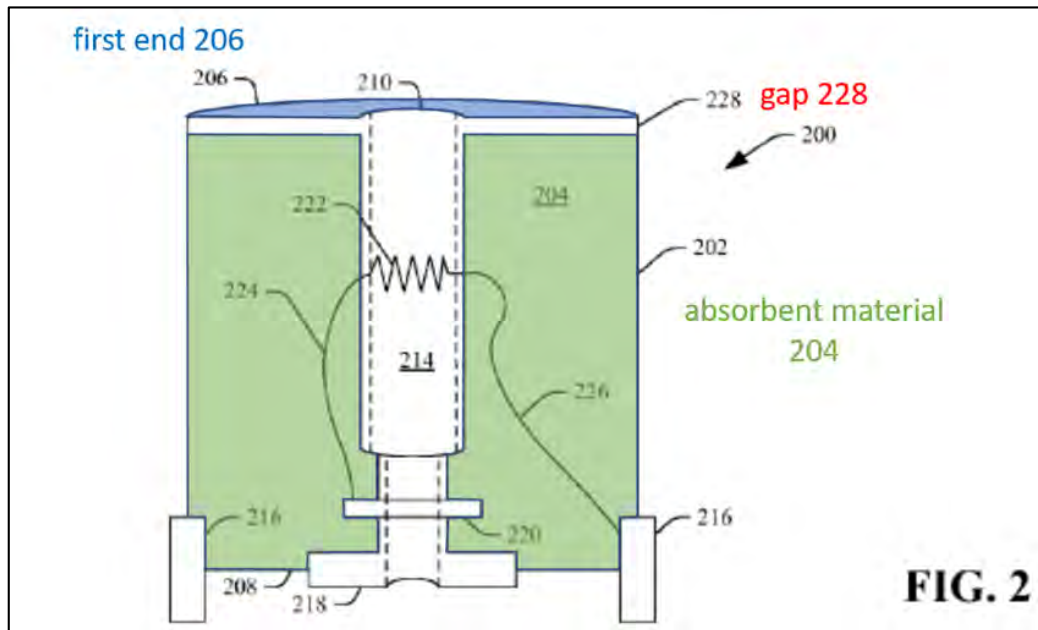
[I]f Fuma contends that the prior art is missing this limitation because only a portion (as opposed to the entire) airflow channel is allegedly surrounded by solution holding medium, then this limitation is also missing from the accused SOLO and CIRO products for the same reason. [] Nevertheless, Reynolds's final non-infringement contentions imply that this limitation requires that the solution holding medium surrounds the entire (not just a portion of) the claimed airflow passageway. The construction implied by Reynolds is objectively reasonable, both in my opinion and from the perspective of the PHOSITA. **If the Court were to adopt that construction**, then this limitation is missing from the accused products and is another basis for non-infringement. . . .

(Ex. A, RJR Rebuttal Report ¶¶ 128-129 (emphasis added)). Fuma has never relied upon this erroneous interpretation of the claims, nor has RJR ever articulated reasons for why the claims should be interpreted in this manner.

As an initial matter, the term “intermediate” does not require that the passageway be surrounded by the solution holding medium along its entire length. The Court agreed when discussing this term in a different context, explaining that “‘intermediate’ on its own does not dictate that the airflow passageway must extend the full length of the housing” (Dkt. No. 95, Claim Construction Order at 21).

Moreover, a preferred embodiment of the '604 and '881 patents shows a solution holding medium that does not extend the entire length of the airflow passageway. The Court has interpreted the “airflow passageway” in a manner that does not “exclude any embodiment shown in the specifications.” (Dkt. No. 95, Claim Construction Order at 20). RJR's incorrect view that the solution holding medium must surround the entire length of the airflow passageway is contradictory to the preferred embodiment illustrated in Figure

2 of the asserted patents, where the absorbent material (204) does not extend the entire length of the airflow passageway because of gap (228) and also because the airflow passageway extends beyond the illustrated surface of second end (208) that bounds the absorbent material (204):



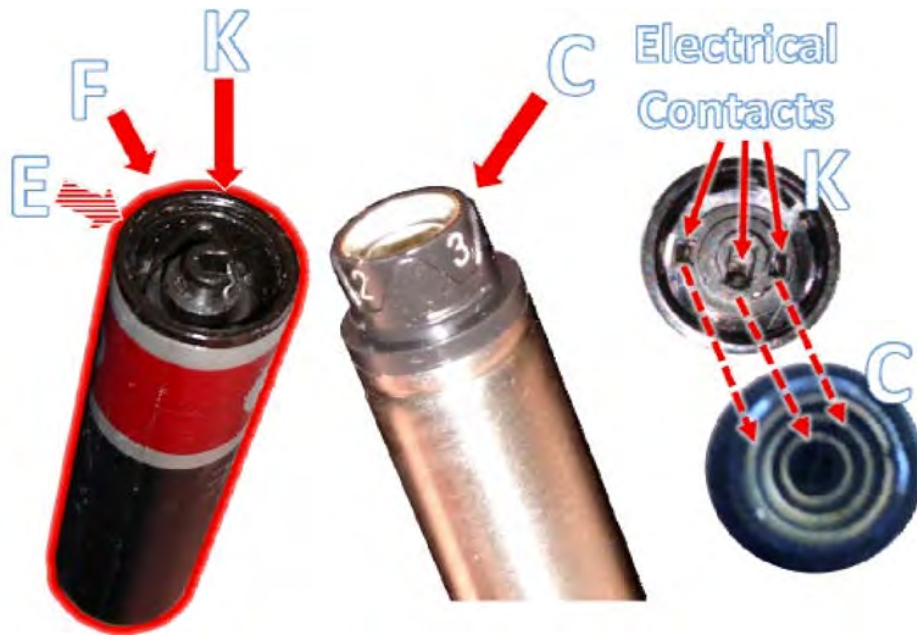
(‘604 patent Fig. 2 (colored annotations added)).

The Court has previously recognized that “in Figure 2 of the ‘604 and ‘881 patents, the airflow passageway is depicted by the dashed lines as extending through the ‘gap’ to the second aperture, which is consistent with the Court’s construction.” (Dkt. No. 95, Claim Construction Order at 20-21). Thus, Claim 1 of the ‘604 patent and Claim 1 of the ‘881 patent do not require the solution holding medium to extend the entire length of the airflow passageway because that is not how the claims are written and not how the preferred embodiment is depicted.

RJR likewise contends that the language of '604 Claim 12 and '881 Claim 8 also require that the solution holding medium extend the entire length of the airflow passageway—an argument that is even more tenuous and fails for the same reasons above. The pertinent language of '604 Claim 12 reads “wherein the medium extends in surrounding relation of the heating element and the airflow passageway.” ('604 Claim 12). Claim 8 of the '881 reads in pertinent part that “both the heating element and the airflow passageway being surrounded by the solution holding medium reservoir” ('881 Claim 8). The plain language of these claims has no requirement that the solution holding medium extend the entire length of the airflow passageway, and such an interpretation would exclude the preferred embodiment for the same reasons set forth above.

B. The “electrically conductive portion” of the '881 patent can have multiple features.

Claim 1 of the '881 patent requires an apparatus wherein “the first end [F] of the housing [E] includes an **electrically conductive portion** [K] that is adapted to mechanically and electrically couple to the **electrically conductive portion** of the power source [C]” ('881 Claim 1 (emphasis added, bracketed letters added to correspond to figures below)). Claim 8 of the '881 patent contains like language. ('881 Claim 8 (“the first end of the housing having an electrically conductive portion adapted to mechanically and electrically couple to the electrically conductive portion of the power source”)). The Vuse Solo G1 and G2 version both meet these limitations. Below are the electrically conductive portion of the cartridge housing that electrically and mechanically couple the cartridge to the power source:



(Ex. E at 26 (Vuse Solo G1); Ex. C at 7 (same); Ex. F at 25-32 (showing the same accused structures in the Vuse Solo G2 version); Ex. B at 7 (same)¹). Thus, there is a portion of the cartridge and a portion of the power source that mechanically and electrically couple together, literally meeting the Court’s claim construction.

Essentially, RJR argues that there must be a single feature—for example, electrically conductive threads—that also mechanically couple the cartridge to the power source. RJR does not dispute that the above elements [K] and [C] do electrically and mechanically couple the power source and cartridge together. Rather, RJR argues that elements [K] and [C] above are not an “electrically conductive portion” of the cartridge because the “electrically conductive portion” of the cartridge can only consist of a single feature. RJR

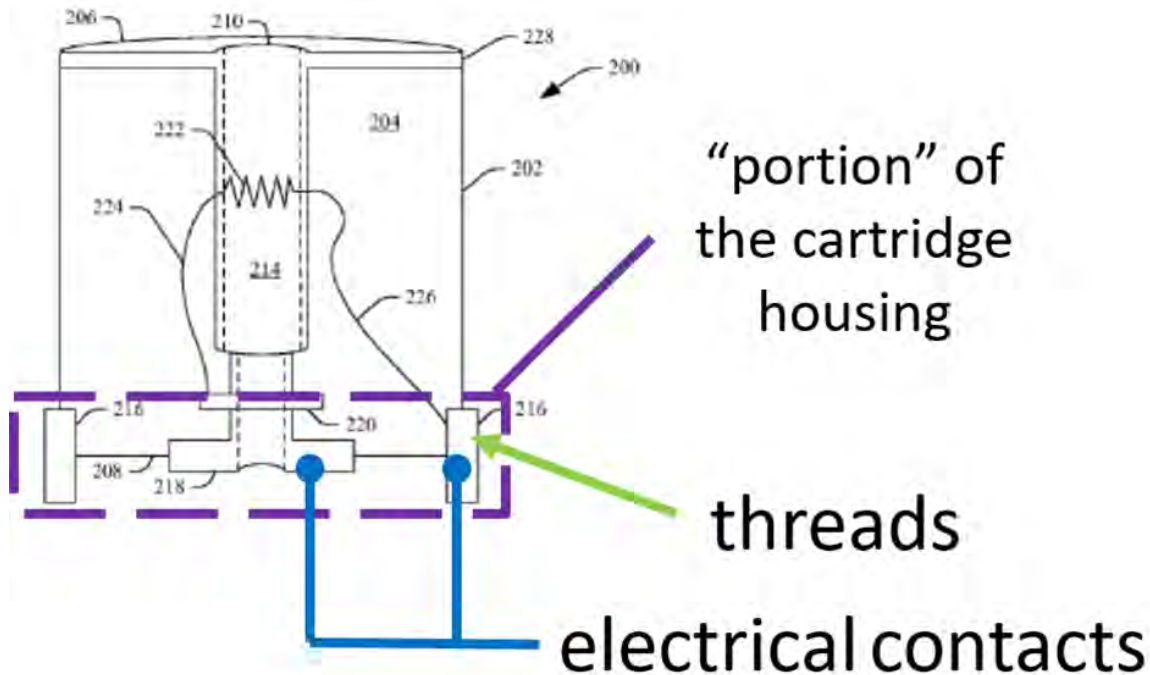
¹ RJR does not argue that there is any difference between the accused “electrically conductive portion” of the Vuse Solo G1 and Vuse Solo G2 that forms any basis for a non-infringement argument.

insists that the “electrical contacts” identified in the above image—rather than the accused “portion” of the cartridge housing—must mechanically and electrically couple the cartridge to the power source.

However, a “portion” of a cartridge housing does not have the limited meaning that RJR seeks. The parties previously briefed this term, with the Court holding that the term has its ordinary meaning, namely “[a] portion that is electrically conductive.” (Dkt. 95 at 9; *Id.* at 10). During claim construction proceedings relating to the ’604 patent, RJR likewise argued that the term “electrically conductive threaded portion” requires that a single feature of the accused “portion”—the threads—must both mechanically couple and be electrically conductive. (*See* Dkt. No. 95, Claim Construction Order at 7-8). In rejecting RJR’s argument, the Court stated that “[n]othing in the claim language, specification, or prosecution history supports RJR’s contention that the threads must be electrically conductive.” (Docket Number 95, Claim Construction Order at 8). This same understanding applies to the asserted claims of the ’881 patent, which eliminated the term “threaded” in its entirety. The “portion” for mechanically and electrically coupling the cartridge to the power source can have separate mechanical and electrical coupling features, and the mechanical coupling feature does not have to be electrically conductive.

The specification further confirms that the “portion” of the cartridge housing is not a single feature, but instead an area of the housing where such features are located. In other words, a “portion” of a housing can have separate mechanical and electrical coupling features. For example, the preferred embodiment of the asserted patents shows a center

post (218) as being part of the claimed “electrically conductive portion” that is used for electrically coupling but not for mechanically coupling:



(‘604 patent at Fig. 2 (annotations added))²

In reference to the above figure, the patent specification explains:

[T]he conductive element [216] **may be metallic threads** that facilitate mechanically and electrically coupling the cartridge 200 with a power source (battery). ... In an example, the center post 218 can be formed of a conductive material, and may be constructed as being a portion of an end cap.

...

When the cartridge 200 is coupled to a power source, the **conductive element 216 is electrically coupled to a negative terminal** of the power source and the center post 218 (and thus

² The ‘881 and ‘604 patents contain substantially the same specification. ‘604 Figure 2 rather than ‘881 Figure 2 is used here for legibility.

the electrical isolator 220) **is electrically coupled to a positive terminal of the power source.**

(’881, Col.6:25-51 (emphasis added)). Thus, consistent with its use in the specification, a “portion” of a housing is not a single feature (such as a thread)³ by itself, but instead an area at the end of the housing that may have separate features that perform the mechanical or electrical coupling functions as recited in the claim. Requiring that the “portion” have a single feature that both electrically couples and mechanically couples would therefore exclude a preferred embodiment of the patented invention from falling within the scope of the claims. *See, e.g., Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1333 (Fed. Cir. 2013) (“[A]n interpretation which excludes a disclosed embodiment from the scope of the claim is rarely, if ever, correct.”) (citations and quotations omitted).

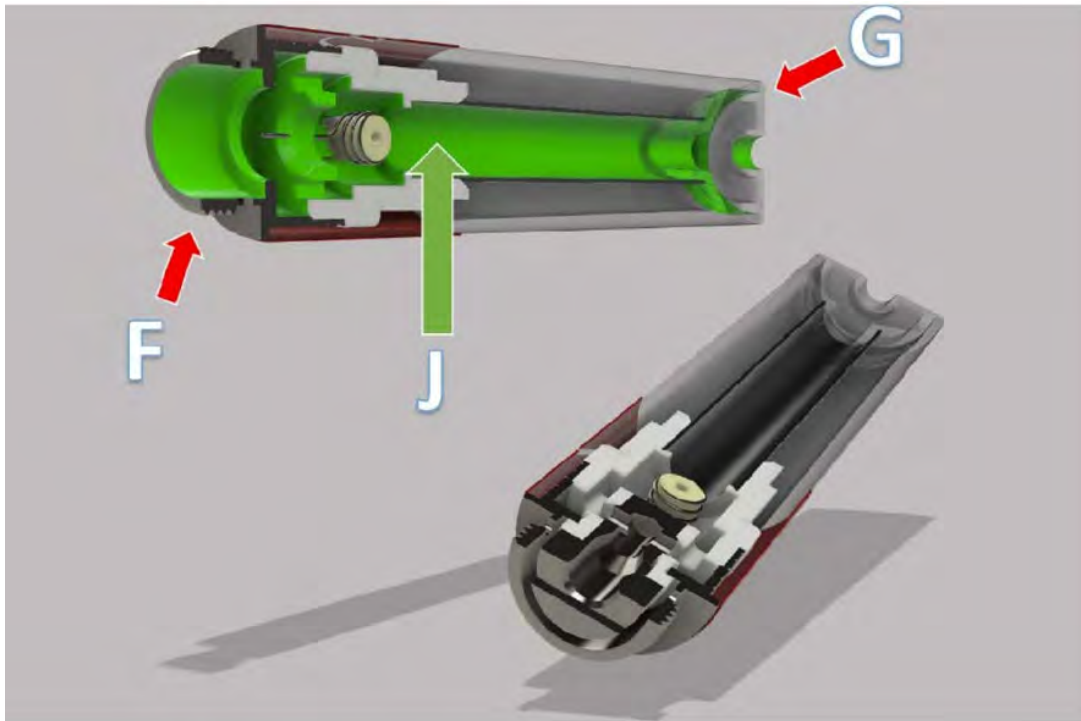
RJR’s argument that the Vuse Solo does not infringe the ’881 patent because it lacks an “electrically conductive portion” must therefore fail as a matter of law.

C. The “airflow passageway” of the Vuse Solo “extends in a straight path through the center of the cartridge from a first opening on the first end to a second opening on the opposite end of the cartridge.”

The Court construed Claims 1 and 12 of the ’604 patent and Claims 1 and 8 the ’881 patents to require that: “[t]he airflow passageway [J] extends in a straight path through the

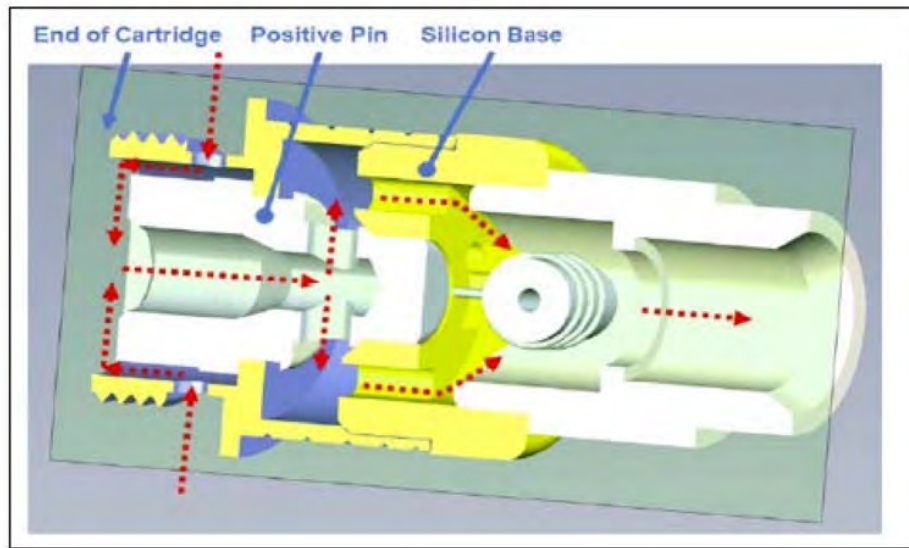
³ Both asserted patents contemplate various types of connectors other than threads. (*See* ’881 patent, Col.3:2-9 (“Of course, other types of connection mechanisms that can mechanically and electrically couple the power source 102 with the cartridge 104 are contemplated and are intended to fall under the scope of the hereto-appended claims. These include magnetic connection mechanisms, snaps, twist caps, push on connections, gasketed connections, quick connection mechanisms, turn lock mechanisms, t-bar connections, etc.”); ’604 Col.3:1-8 (same)).

center of the cartridge from a first opening on the first end [F] to a second opening on the opposite end [G] of the cartridge.” (Dkt. 95 at 22 (brackets added to correspond to below figures)). The Court further explained that “the Court does not understand this construction to exclude any embodiment shown in the specifications.” (Dkt. 95 at 20). The Vuse Ciro has an airflow passageway—element J, shown in green—that extends in a straight path through the cartridge:



(Ex. H at 26 (showing positive pin removed [top] and in place [bottom])).

While the structure of the Vuse Ciro itself is not disputed, RJR argues that the presence of an obstruction in the airflow passageway, termed a “positive pin,” causes airflow path to not proceed in a straight line from one end to the other (shown in red dotted lines below):



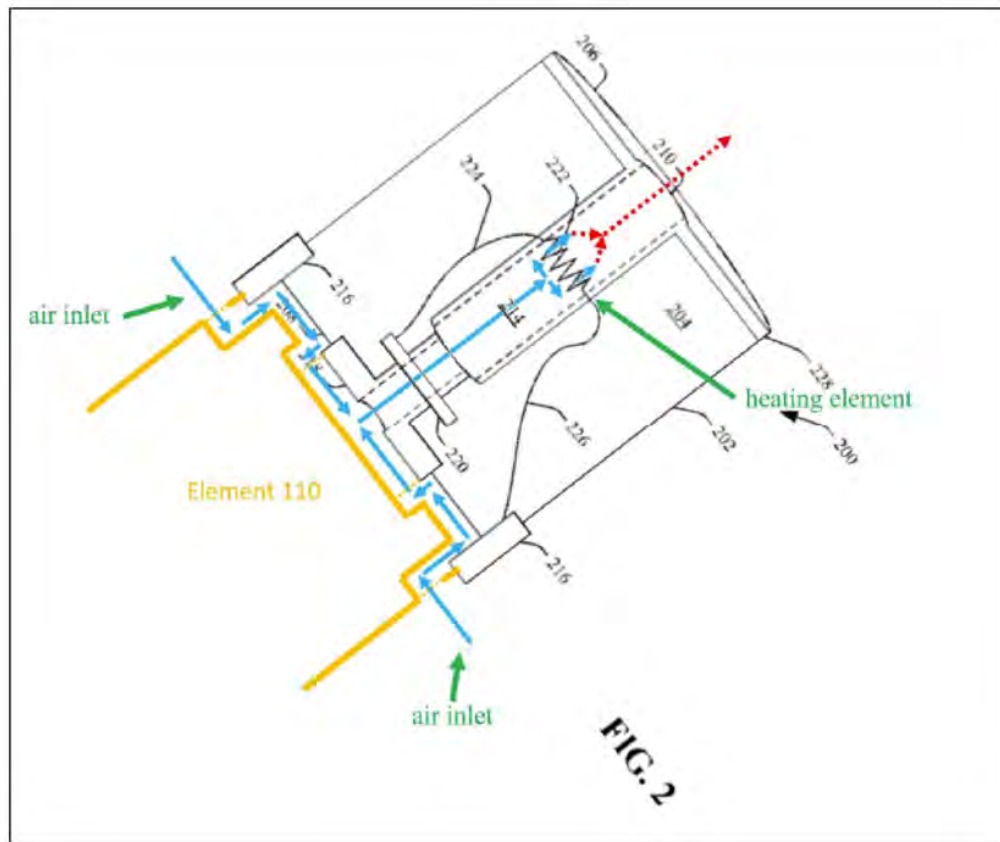
(Ex. G, Fuma’s Reply Expert Report at ¶ 62 (citing Ex. A, RJR’s Rebuttal Expert Report ¶ 89)).

RJR’s noninfringement argument is flawed because (1) the “airflow passageway” is a structural limitation and is different than the “airflow path” and (2) the ’881 and ’604 patents both contemplate that the airflow passageway may contain obstructions that cause the airflow to pass around the obstructions.

First, an “airflow path” is not recited or expressed in any of the asserted claims, and is not the same as an “airflow passageway,” according to the patents. (’604 Claim 1 (“the airflow passageway is configured to allow [] airflow through the cartridge”); ’604 Claim 1 (“in the airflow”); ’604 Claim 4 (referring to “airflow through the passageway”); ’604 Claim 12 (“airflow passageway enables airflow from the first end to the second end”); ’881 Claim 1 (“the airflow passageway is configured to allow an airflow through the cartridge”); ’881 Claim 1 (“the airflow through the passageway passes on both transverse sides of the

element”); ’881 Claim 1 (“in an airflow”); ’881 Claim 8 (“the airflow passageway being configured to allow an airflow through the cartridge”); ’881 Claim 8 (“the airflow through the passageway passing on both transverse sides of the heating element”); ’881 Claim 8 (“in an airflow”). The distinction between the “airflow” and the “airflow passageway,” as recited in the claims, is important because of the possibility that the airflow passageway contains obstacles. The airflow can travel around obstacles—such as the heating element of the preferred embodiment—but the airflow passageway containing those obstacles extends in a straight path.

Second, the “positive pin” of the Vuse Ciro is merely an obstacle in a straight airflow passageway. Even in the preferred embodiment of the patents-in-suit and the asserted claims, the airflow path passes on both transverse sides of a heating element that is positioned in the airflow passageway. (Claim 4 (“ . . . airflow through the passageway passes on both transverse sides of the element”) (emphasis added); ’881 Claims 1, 8 (“ . . . the airflow through the passageway passing on both transverse sides of the heating element”) (emphasis added)). Fuma’s expert provides the following illustration based on Figure 2 and the specification of the patents, showing that the airflow through the passageway passes on both transverse sides of the heating element [222] (cool air annotated in blue, warm air in red):

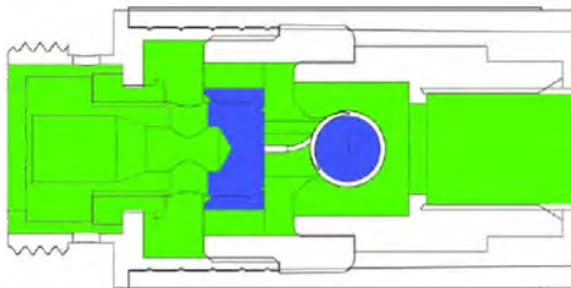


(Ex. G, Fuma’s Reply Expert Report ¶ 61). Thus, the “airflow passageway” recited in the claims and described in the patents remains straight even when the “airflow” goes around obstacles positioned in the airflow passageway, such as the heating element.

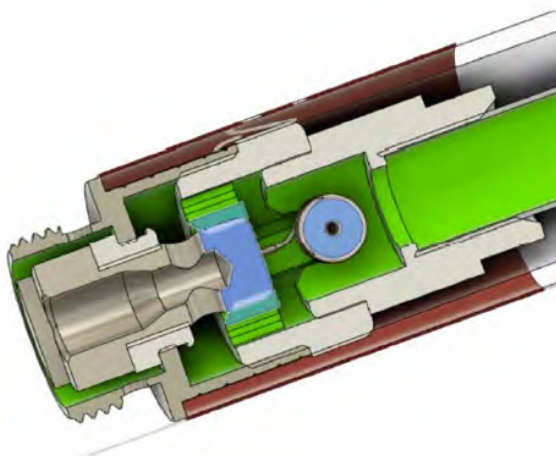
The only difference in the “airflow” of the Vuse Ciro and the “airflow” of the preferred embodiment shown in Fig. 2 of the patents-in-suit, is that the Vuse Ciro also has air flowing on both transverse sides of the end of a positive pin in addition to air flowing on both transverse sides of the heating element as recited in the asserted claims. In fact, the airflow passageway (shown in green below) continues centrally and axially, and only the “airflow” passes on both transverse sides of an obstruction (blue rectangular element

below) in the same way the “airflow” also passes around the heating element in the asserted claims and preferred embodiment (blue circular element below):

Vuse Ciro 2D View

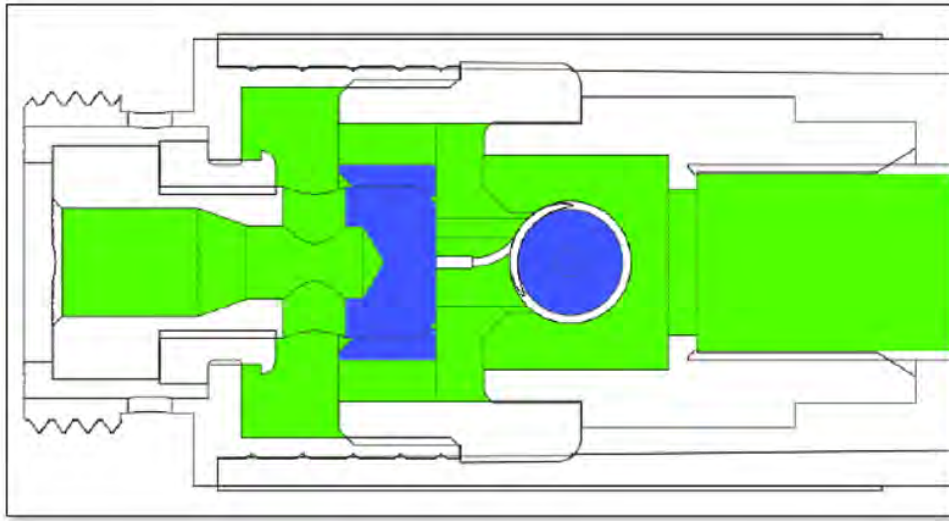


Vuse Ciro 3D View



(See Ex. G, Fuma’s Reply Expert Report at ¶ 65 (showing the above 3D view)). Because the positive pin is merely an obstruction in the airflow passageway, the airflow passageway extends in a straight path through the center of the cartridge as required.

Last, RJR also argues, rather than the green airflow passageway illustrated above, that the airflow passageway travels through the “positive pin.” (Collins ¶ 93). This is a distinction without a difference: the positive pin sits in the “airflow passageway” with air passing through it and is positioned centrally and axially to the cartridge housing. The “airflow” passes on both transverse sides of an obstruction—*i.e.* one end of the positive pin. Modifying the location of the airflow passageway in accordance with RJR’s argument results in an airflow passageway (shown in green below) that also extends straight through the center of the cartridge, with air flowing around two obstructions (shown in blue below):



(Ex. G, Fuma's Reply Expert Report at ¶ 67). Thus, RJR's disagreement about the location of the airflow passageway does not change the fact that the claimed airflow passageway is present and literally infringes the "airflow passageway" element of the construed claims.

VI. Conclusion

For the aforementioned reasons, Fuma's motion for summary judgment should be granted because RJR's non-infringement arguments set forth herein are without merit. Therefore, there is no genuine dispute of material fact that RJR's Vuse Solo E-Cigarette infringes claims 1 and 8 of the '881 patent and RJR's Vuse Ciro E-Cigarette infringes claims 1 and 8 of the '881 patent and claims 4, 6, 12, 14, and 16 of the '604 patent.

Dated: October 20, 2020

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CERTIFICATE OF WORD COUNT

Pursuant to L.R. 7.3(d)(1), the undersigned certifies that this Brief complies with the word limit contained in L.R. 7.3(d)(1), using the word count feature of the word processing software in making this certification.

/s/ William K. Davis

William K. Davis

CERTIFICATE OF SERVICE

The undersigned hereby certifies that this document was filed through the ECF system and will be sent electronically to the registered participants as identified on the Notice of Electronic Filing (NEF).

/s/ William K. Davis

William K. Davis

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