

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

FUMA INTERNATIONAL LLC, an Ohio  
limited liability company,

Plaintiff,

v.

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

Defendant.

Civ. No. 1:19-cv-260 [Lead Case]

Civ. No. 1:19-cv-660

**PLAINTIFF FUMA INTERNATIONAL LLC'S TRIAL BRIEF**

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Plaintiff Fuma International LLC (“Fuma”) hereby submits the following Trial Brief in accordance with L.R. 40.1(c).

## **I. INTRODUCTION**

On March 6, 2019, Fuma International LLC, (“Fuma”) brought this action, Civ. No. 1:19-cv-260, against R.J. Reynolds Vapor Company (“RJR”) for infringement of U.S. Patent No. 9,532,604 (the “’604 patent”, Dkt. 76-2). On July 2, 2019 Fuma also brought Civil Action No. 1:19-cv-660 against RJR for infringement of U.S. Patent No. 10,334,881 (the “’881 patent”, Dkt. 76-3). These cases have been consolidated into the earlier-filed action.

Two electronic cigarettes designed and sold by RJR, the VUSE Solo and the VUSE Ciro, infringe Fuma’s patents. On May 24, 2021, the Court held that Fuma was entitled to summary judgment on the issue of direct infringement of the asserted claims of the ’881 patent by the Solo and the Ciro. (Dkt. 139). The Court determined that Fuma was also entitled to summary judgment of direct infringement of the asserted claims of the ’604 patent by the Ciro and as to all of the elements but one by the Solo. (*Id.* at 18). Regarding infringement, disputed questions of fact remain only as to whether the Solo has an “electrically conductive threaded portion” and thus infringes the ’604 patent claims. (*Id.*).

RJR was aware of Fuma’s patents and patented products because RJR recognized Fuma as a superior product that RJR sought to replicate, and RJR willfully infringed Fuma’s patents to compensate for its late entry into the e-cigarette market and its prior failures at commercializing alternative smoking devices. Although RJR challenges the

validity of the asserted patents, RJR cannot sustain its burden of proving invalidity by clear and convincing evidence.

Fuma seeks damages from RJR in the form of a reasonable running royalty, or alternatively, a lump sum payment based on what RJR would have paid the Fuma after a “hypothetical negotiation” at the time the infringement began. *Uniloc USA, Inc. v. Microsoft Corp.*, 632 F.3d 1292, 1312 (Fed. Cir. 2011). “Fuma seeks monetary damages in an amount ranging . . . [up] to US\$135.4 million (which the Court may (but is not obligated to) increase up to 3x the actual damages awarded should RJR Vapor be found to have wilfully [sic] infringed) and an injunction.” (British American Tobacco Annual Report, Form 20-F at p. 240 (available at <https://www.bat.com/annualreport>) (parentheticals omitted)).

Fuma further seeks a permanent injunction to stop RJR’s continuing infringement of the asserted patents. 35 U.S.C. § 283.

## **II. FACTUAL BACKGROUND**

### **A. The Asserted Patents and Accused Products**

The patents-in-suit each describe an electronic cigarette comprised of a cartridge and a power source and are substantially the same in specification. Fuma accuses two of RJR’s electronic cigarettes, the VUSE Solo and the VUSE Ciro, of literally infringing claims 1 and 8 of the ’881 patent and claims 4, 6, 12, 14, 16, and 18 of the ’604 patent. Both patents apply to each accused product. This Court found that the Ciro infringes all asserted claims of both patents, and that the Solo infringes all asserted claims of the ’881

patent, but there remains a jury question as to whether the Solo meets the “threaded” limitation of the ’604 patent claims. (Dkt. 139).

**B. RJR’s Failed Efforts to Produce its Own Alternative Smoking Devices.**

RJR has been attempting to commercialize alternative smoking devices for several decades to quell criticism for its contribution to tobacco related diseases. (Dkt. 183-1, July 23, 2020 Expert Report of S. Holzen on Damages ¶¶80-82, [hereinafter “Holzen Damages”]). For example, RJR first released its first version of a smoking alternative in 1988 under the Premier brand name: a “heat-not-burn” device that worked by aerosolizing processed tobacco. (*Id.* ¶83). RJR discontinued Premier after less than a year because consumers did not like its charcoal aftertaste despite RJR spending over \$800 million in development and launch of the device. (*Id.*; Dkt. 1-6 at 12). In 1994, RJR introduced a second version of its heat-not-burn technology under the Eclipse brand name. (*Id.*). The Eclipse was marketed as a safer alternative to traditional cigarettes but the product was discontinued shortly after it was launched. (*Id.*).

As traditional cigarette consumption continued to decline through the 2000s, RJR was incentivized to find ways to curb falling smoking rates. (*Id.* ¶85). In 2007 and 2008, RJR began tracking new e-cigarettes and acquiring samples for analysis. (*Id.*). In late 2008, Reynolds Innovation Inc. was formed. (*Id.*). Its activities related to the exploration of a new “tobacco product, including vapor” as “part of its strategic and operating plan.” In June of 2009, RJR contracted with third parties to lead an ideation process for new products in the vapor sector of the cigarette and tobacco industry. (*Id.*).

**C. Fuma’s Successful Patented E-Cigarette Design.**

As RJR was beginning to explore the vapor sector, Mr. Conley, Mrs. Conley, and Mr. Hillenbrandt founded Fuma International LLC with the purpose of developing and commercializing a new and improved e-cigarette. Each of the co-founders had previously been distributing devices sold by a company called Smoke Anywhere USA, Inc., a.k.a. “Smoke 51.” (Dkt. 1 ¶9). Recognizing that these e-cigarette devices were deficient in numerous ways, including that the Smoke 51 design caused a burnt taste for the user, Mr. Conley and Mr. Hillenbrandt invented a new design for an e-cigarette device. Fuma then introduced its new e-cigarette to the marketplace in 2009 at the Tri-State Tobacco and Candy Convention held August 12-14, 2009 at the Belterra Casino Resort and Spa in Belterra, Indiana. (Dkt. 1 ¶¶10, 16). In September 2009, Fuma began offering for sale and selling their new product in the United States. (Dkt. 1 ¶19). Fuma’s E-Cigarette practices the asserted claims of the ’604 and ’881 patents. (Dkt. 120-4, July 23, 2020 Expert Report of Glen Vallee, Ph.D. On Infringement ¶¶ 74-76 [hereinafter “Vallee Infringement”]).

Fuma’s new e-cigarette devices were met with immediate success in the market. Fuma’s sales went from approximately \$50,000 in the last quarter of 2009, over \$700,000 in 2010, to nearly \$3 million in 2011. (Dkt. 1 ¶22).

**D. RJR Praise of the Patented Fuma E-Cigarette.**

As Fuma’s E-Cigarette was meeting with market success, in 2010, the RJR operating plan included the need to develop a tobacco based electronic vapor product. (Holzen Damages ¶88). RJR pursued a two-pronged approach to completing this plan

that included either internally developing their own product or acquiring the technology from a third party. (*Id.*). At that time, RJR was collecting third-party competitive products and analyzing them in their research and development facilities. (*Id.*). The Smoke 51 product was among the products RJR reviewed and was the product that Fuma's Messrs. Conley and Hillenbrandt had previously distributed and found significantly flawed. (Dkt. 60-1, RJR Presentation entitled "Horizon 3 Vapor, Open Innovation, Fuma International LLC" at RJRV-F000154464).

In June of 2010, Fuma contacted RJR to explore the idea of a partnership between the two companies. (Holzen ¶89). Mr. Denny Potter ("Mr. Potter"), Vice President of Strategic Innovations at RJR, spoke with Mr. Conley about Fuma's new e-cigarette device. (*Id.*) Mr. Potter informed Mr. Conley that part of Potter's job was to search for and investigate promising new technologies and product opportunities, and Mr. Potter had been tasked as early as 2007 with investigating the then existing e-cigarette devices that were on the market. (Vallee Infringement ¶95). Mr. Potter requested samples of Fuma's new e-cigarette device and any additional information that Mr. Conley could provide. (Holzen ¶89). Fuma then sent RJR additional information regarding their products as well as samples of the product. (*Id.* ¶90).

RJR praised the Fuma device internally. Mr. Potter stated that Fuma had a "unique design and operation" relative to the other vapor products RJR had analyzed. (Dkt. 159-9). He also indicated that Fuma had a different taste, flavor, and operating ritual. (*Id.*). He indicated that it was "significant" that Fuma's product lacked a sweet aftertaste commonly associated with e-cigarettes and that he would ask RJR's research

and development team to analyze the product. (*Id.*). Mr. Potter further stated that the Fuma device had a “nice balanced feel”, and its “magic” was its mouth piece / aerosolizer. (*Id.*). Mr. Potter also noted that RJR’s evaluators reported that Fuma’s product offered a “far closer” “cigarette experience” than other e-cigarette designs. (*Id.*). He stated that the Fuma product was “simple, clean, and very close to intuitive” and that he saw “more potential in this product design than **any of the others we have assessed to date.**” (*Id.* (emphasis added)).

Mr. Potter reported to Mr. Conley that he “[h]ad a good day walking the Fuma product and materials around” at RJR, and that RJR wanted to proceed with entering into a confidentiality agreement “to further our discussions.” (Dkt. 1-10, June 29, 2010 Email from D. Potter to G. Conley). Once the Confidentiality Agreement between Fuma and RJR was signed, Mr. Potter and Mr. Conley set up an in-person meeting at RJR to discuss the Fuma technology and the potential for a joint venture between Fuma and RJR that would allow RJR to participate in the e-cigarette market while taking advantage of Fuma’s patent-pending e-cigarette design. (Vallee Infringement ¶104). Mr. Potter also promised to share with Fuma all tests that RJR performed on the sample Fuma e-cigarette samples Fuma provided to RJR pursuant to the Confidentiality Agreement, but testified that he did not do so. (Vallee Infringement ¶94). Mr. Potter even acknowledged and admitted to Mr. Conley that “Fuma is not the first vapor/aerosol product that we have looked at, but it has generated the highest interest to date....” (*Id.* at ¶104).

On July 28, 2010, Mr. Conley met in person with representatives from RJR at RJR’s headquarters in Winston-Salem, North Carolina. RJR ended the meeting when

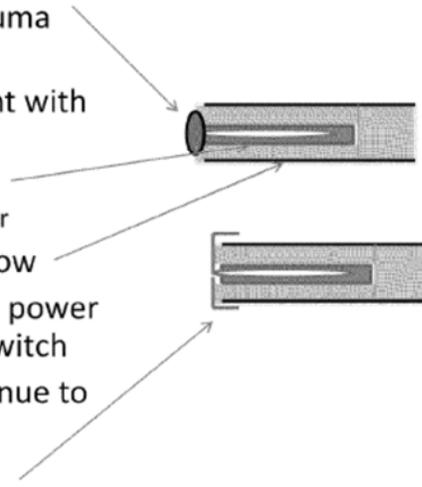
Mr. Conley respectfully declined to disclose his then-pending patent application to RJR absent a more specific commitment from RJR regarding a business relationship with Fuma. (Dkt. 1 ¶¶42-45). Beginning with the initial contacts between Mr. Conley at Fuma and Mr. Potter at RJR, Fuma had advised RJR that it had filed patent applications on its e-cigarette design. (Vallee Infringement ¶ 96). Mr. Potter reported to his superior at RJR, Daniel Herko, about his initial contacts with Mr. Conley and Fuma, and advised Mr. Herko that Fuma had patent applications covering the Fuma e-cigarette “...functional design, [and] the re-fill cartridge . . .” (*Id.* ¶97 (quoting RJRV-F000684461)). Shortly after the in-person meeting, Mr. Potter informed Mr. Conley that RJR declined to collaborate with Fuma. (Dkt. 1-12).

Although RJR severed contact with Fuma, RJR’s internal presentations showed that RJR conceptualized a “Tobacco e-cig based on FUMA” where RJR would “[i]ncorporate a heating element similar to the one found in Fuma brand e-cig”:

# Tobacco e-cig based on FUMA

## Concept

- Incorporate a heating element similar to the one found in Fuma brand e-cig
- Surround the heating element with the new tobacco/Calcium carbonate/glycerin
  - Possibly extrude these together
- Insulate with low efficiency tow
- Utilize an e-cig battery as the power source with flow activating switch
- Each plug = one use, so continue to sell in 20's
- Need quick connector mods



(Dkt. 60-1, RJRV-F000154471).

## E. RJR's Copying of the Fuma Patented Design.

Having no e-cigarette product of its own, RJR saw that the Fuma E-Cigarette was superior to everything RJR had seen in the market and so RJR began to copy the Fuma patented invention in the hopes of releasing its own product. RJR's determination to "replicate" the existing Fuma technology was directly contradictory to RJR's stated corporate policies that preclude the intentional theft of intellectual property owned by others. (Dkt 181-5, RJRV-F000046714-17).

Internal communications at RJR regarding the Fuma e-cigarette design continued, including communications between Mr. Potter and RJR's Chief patent Counsel, Mr. Borsche. (Vallee Infringement ¶ 100). Mr. Potter and RJR also continued to focus on the patented Fuma e-cigarette design in other presentation materials. (Ex. 1, RJRV-

F000196210, Potter Deposition Ex. 13). As shown by RJR internal PowerPoint presentation, Mr. Potter and RJR continued to address what RJR referred to as “Horizon 3 Vapor”, which was the project name for RJR’s attempts to develop an e-cigarette. (*Id.*). That PowerPoint presentation gives a review of “products and technologies we [RJR’s R&D group and the Strategic innovations Group led by Mr. Potter] have reviewed and rejected over the past couple of years,” (*Id.* at 2, 3rd bullet point), “Leading in to a discussion of the technology associated with Fuma International LLC’s product and why we currently believe it may present one of the best ways forward for a Horizon 3 Platform.” (*Id.* at 2, 4th bullet point).

RJR also continued to conduct internal tests of the Fuma E-Cigarette, including vapor characterization studies on the Fuma e-cigarette. (Vallee Infringement ¶106). All but one of those test results were never shared with Fuma, despite Mr. Potter’s promise to do so. Mr. Potter prepared an additional PowerPoint presentation for the RJR Leadership Team on October 4, 2010, focusing on the Fuma e-cigarette patented design and describing the Fuma e-cigarette design as “Green Field: Enabling Technology”. (Vallee Infringement ¶107). In yet another PowerPoint presentation prepared for RJR’s Leadership Team on October 4, 2010, RJR continued to focus exclusively on the Fuma e-cigarette design for its Horizon 3: Tobacco Vapor project, and again praised the Fuma e-cigarette design for providing a “high potential battery based heat-transfer technology direction.” (Vallee Infringement ¶108).

The Fuma E-Cigarette and its patented design continued to be a focus of RJR’s own attempts to develop an e-cigarette. RJR prepared and sent out a Request For

Proposals that focused on the design of the Fuma e-cigarette because it demonstrated the best potential of any product RJR had seen. (Vallee Infringement ¶¶109-110). Mr. Potter gave a presentation focusing on the Fuma e-cigarette design to three companies, each of which submitted a proposal in response to the RJR's RFP: 1) Boston Engineering; 2) Forthright Engineering; and 3) FlexEl, LLC. (Vallee Infringement ¶111). Each proposal submitted by these three engineering companies, and in subsequent submissions, described various designs for an e-cigarette, that RJR evaluated. (Vallee Infringement ¶111). Fuma's expert, Dr. Vallee, has reviewed the designs proposed by these companies, as well as the internal design work done by RJR, and determined that "[n]one of these 279 concepts resemble the Fuma patented e-cigarette design. And none of the concepts submitted by the outside engineering firms hired by RJR, or any concepts developed internally at RJR, resemble the Fuma patented e-cigarette design, and none resemble the accused infringing Vuse Solo and Vuse Ciro e-cigarettes sold by RJR." (Vallee Infringement ¶112).

RJR eventually found itself pressing to get an e-cigarette product on the market by July 2012 to meet a deadline imposed by the U.S. Food and Drug Administration's impending regulation of e-cigarettes. (Vallee Infringement ¶115). RJR admitted in its internal documentation that to meet this deadline it would have to come out with what it called a "Standard Technology" and a "Me-Too" product. (*Id.*). Thus, despite many years of efforts by RJR, beginning no later than Mr. Potter's investigation of then-existing e-cigarette products in 2007 and through RJR's introduction of its first e-cigarette device—the Vuse Solo disposable in 2012—and despite enlisting presumably highly

qualified outside engineering companies to try and develop an e-cigarette design, RJR had to copy the Fuma patented e-cigarette design. Indeed, RJR has provided no evidence that it independently came up with the design of the accused infringing e-cigarettes.

To reinforce that they needed to copy an existing e-cigarette design to meet this deadline, RJR's internal documents define one of the "work streams" of the Vuse development team was to "Replicate Existing Technology". (Vallee Infringement ¶116). To replicate existing technology, RJR engaged Forthright Engineering to "reverse engineer[] current products" and engaged Euromonitor to investigate "the OEMs for the top tier of e-cig retailers" to "[d]etail their capacities"—including Fuma. (*Id.*). Working on behalf of RJR, Euromonitor reconnoitered Fuma's OEM manufacturer, obtaining information about what improvements Fuma was seeking from its supplier and the number of products being ordered. (*Id.*). Euromonitor was also able to take pictures of the floor of the manufacturing facilities at Fuma's OEM, including assembly processes, such as a wick station and other production machinery. (*Id.*). RJR also continued to evaluate, in late 2011, a specimen of the Fuma E-Cigarette as a part of its "Replicate Existing Technology" work stream. (*Id.*).

RJR then released its Vuse Disposable product in 2012, which formed the basis of RJR's Vuse Solo product with minor modifications. RJR characterizes this product as a "temporary 'placeholder' product . . . which implemented standard technology well known to Reynolds and in the prior art." (Dkt. 120-7, September 4, 2020 Reply Expert Report of G. Vallee Regarding Infringement, ¶20 [hereinafter "Vallee Reply"]). This Vuse Disposable device, like its Vuse Solo and Vuse Ciro progeny, practices each

element of the asserted claims of the Fuma '604 and '881 patents, and each of these products contains a heating element running transverse to the airflow passageway. (*Id.* ¶¶20-21).

RJR has also attempted to cover-up its copying of the Fuma patented design. For example, even though RJR, for multiple years, kept and analyzed the physical samples of the Fuma E-Cigarette, RJR now claims to be unable to locate any sample of the Fuma E-Cigarette that RJR had in its possession. Moreover, RJR filed multiple patents on its e-cigarette products after its interaction with, and analysis of, the Fuma E-Cigarette. (Vallee Infringement ¶120). In those patent applications, RJR identified dozens of e-cigarette devices on the market and dozens of suppliers and sellers of such e-cigarettes. (*Id.*). But RJR conspicuously avoided identifying Fuma among those e-cigarette suppliers. (*Id.*). Furthermore, while RJR's witnesses and experts now claim that the first versions of the Vuse devices were well known in the prior art, RJR made the exact opposite representation in its patent applications before the U.S. Patent Office, claiming that these designs were new and patentable. (Vallee Reply ¶23). While RJR never credited Fuma in these applications for the design, the U.S. Patent office rejected multiple attempts by RJR to patent the design for itself in view of Fuma's earlier-filed patent application. (Vallee Reply ¶95).

When RJR became aware of the Fuma '604 patent upon its issuance in 2017, and even after being sued for infringement of that patent, RJR took no steps to change or modify either the Solo or the Ciro devices to avoid using Fuma's patented invention. (Vallee Infringement ¶94). RJR has likewise taken no steps to modify the accused

infringing devices since being sued for infringement of the '881 patent. RJR also did not modify or withdraw the accused products following this Court's determination that both products infringed one or more of the asserted patents.

### **III. FUMA WILL PREVAIL ON ISSUES RELATING TO RJR'S INFRINGEMENT, WILLFULNESS, AND VALIDITY OF THE '604 AND '881 PATENTS.**

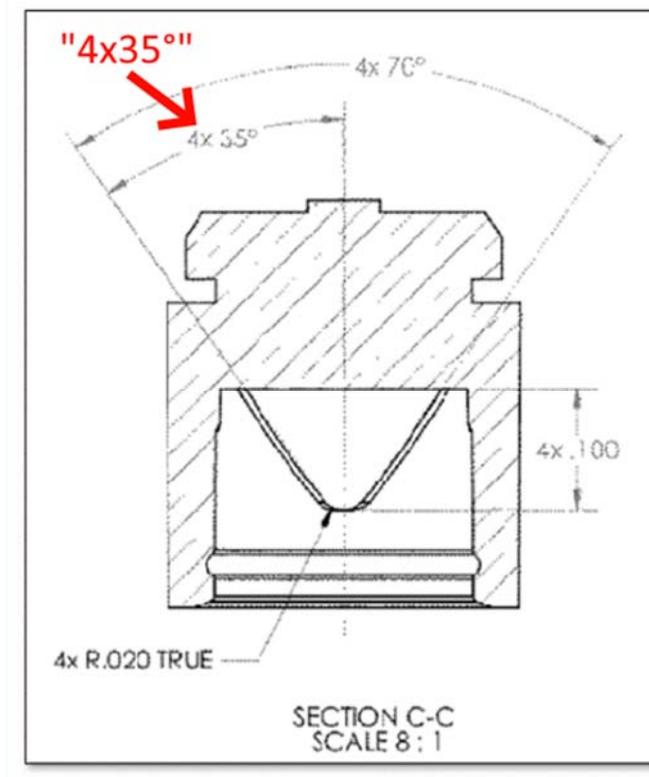
This Court has already held as a matter of law that RJR's Solo product infringes both the '604 and '881 patents. (Dkt. 139 at 18). This Court also determined that RJR's Solo product infringes the '881 patent, and that the Solo product practices all elements of the '604 patent with the exception that disputed questions of fact remain as to whether the Solo is "threaded." (*Id.* at 13-14). Fuma will demonstrate that the Solo does indeed have a thread. Fuma will further prove that RJR's infringement of the asserted patents was willful. Moreover, RJR will be unable to demonstrate that the asserted claims of the '604 and '881 patents are invalid as obvious.

#### **A. RJR's Solo Product Infringes the '604 Patent Because the Solo Cartridge's Connector is "Threaded."**

As for a common understanding of a "thread," Fuma's expert agrees with RJR's expert that a thread is "[a] helical ridge formed on a cylindrical core"—a description adopted by RJR's expert in other proceedings and lacking any requirement of a constant pitch. (Vallee Reply ¶37). The Solo device's accused structures are a series of helical ridges formed on a cylindrical core, and they are thus "threads." (*Id.* at 38).

RJR's last remaining non-infringement argument is that the Vuse Solo is not "threaded" as required by the claims of the '604 patent because the threads of the Vuse

Solo lack a “constant pitch” and are therefore not adapted to mechanically couple. (Dkt. 122 at 29-30). RJR’s non-infringement argument fails because the claims simply do not require threads of a constant pitch, and threads with variable pitches are well known and can even be purchased at common retail hardware stores. (*Id.* ¶37). Moreover, the threads of the Vuse Solo **do** have a constant pitch, namely 35°, as shown by RJR’s own engineering drawings:



(*Id.* ¶37 (red annotation added)).

Moreover, nothing about the claims requires that the threads look a certain way—such as they might on a common screw. First, RJR’s comparison to a standard thread fails to describe the variety of threads that exist, including those designed to translate axial force into rotational motion. (*Id.* at ¶ 32). Second, the threads of the Vuse Solo are

used to “translate a rotationally applied force into axial movement” of the power source and cartridge relative to one another—noting furthermore that “[t]he intent to ‘limit twisting’ when engaged is not a functional difference that would distinguish the threads of the Vuse Solo G1/G2 from other threads.” (*Id.* ¶33). Third, RJR’s own argument, that the threads “prevent[] rotation,” shows that the alleged threads limit the degrees of freedom, i.e. the movement, between the power source and cartridge, thereby coupling the two. (*Id.* ¶34). Fourth, the accused threads “facilitat[e] coupling and decoupling of the cartridge and power source, whereby the threads cause the cartridge to rotate relative to the power unit and come into alignment (as during coupling) as well as impart forces causing the cartridge and power unit to separate due to translation of rotational force into axial force generated by the mating (as during decoupling).” (*Id.* at ¶ 34; *see also Id.* at ¶ 36 (discussing the role of thread alignment in coupling the cartridge and power source)).

Even if the accused structures of the Solo were not literally “threads” as required by the asserted claims of the ’604 patent, they are equivalent as the structure of the Solo device provides the same function-way-result to accomplish the claimed “mechanical and electrical coupl[ing]” of the cartridge and battery recited in the asserted ’604 patent claims. Vallee Reply ¶¶40-44). Thus, as an alternative to literal infringement, Fuma may also prove infringement of this element under the doctrine of equivalents.

#### **B. RJR Willfully Infringed the ’604 and ’881 Patents.**

As set forth in the factual background set forth in Section II above, RJR willfully infringed Fuma’s asserted patents. RJR copied the Fuma patented design and introduced its products into the market without regard to Fuma’s intellectual property. RJR carried

out these infringing activities in an all-out effort to enter the e-cigarette marketplace ahead of FDA deadlines. In fact, when RJR became aware of the issued claims of the '604 upon its issuance in January of 2017, it continued to engage in activities that it knew would infringe the Fuma patents.

**C. RJR Cannot Establish Through Clear and Convincing Evidence that the Asserted Claims of the '604 and '881 Patents are Invalid as Obvious.**

RJR bears a heavy burden in proving invalidity based on clear and convincing evidence. *Microsoft Corp. v. i4i Ltd. P'ship*, 564 U.S. 91, 95 (2011). Here, RJR does not contend that any single piece of prior art invalidates the patents, and therefore lacks any argument that the patent claims are anticipated. Instead, RJR's advances scattershot invalidity theories consisting of **five** different prior art references combined in **seven** different ways to argue that Fuma's invention would have been obvious. (Dkt. 175 at 81-230).

Although RJR's invalidity arguments are too myriad to summarize here,<sup>1</sup> the weakness of RJR's theories is highlighted by the prior art upon which RJR principally relies: the Smoke 51 reference. Both RJR and Fuma had familiarity with the Smoke 51 device and its shortcomings. RJR explicitly considered the Smoke 51 device when it decided that the Fuma patented design was new and different, contrasting the difference between Smoke 51, which had a unique "down stream flow design" with the Fuma

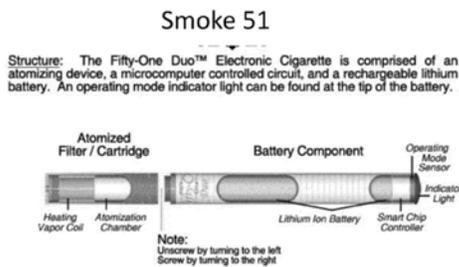
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<sup>1</sup> A full rebuttal of RJR's invalidity theories is presented in Dkt. 181-2, August 20, 2020 Rebuttal Expert Report of Glenn Vallee, Ph.D. Regarding Validity of the '604 and '881 Patents at Dkt. 181-2. [hereinafter "Vallee Validity"].

device that had a “[n]ew central flow design.” (Dkt. 60-1). The same presentation had depictions of both the Fuma and Smoke 51 device that were dissimilar:

## Two piece e-cig

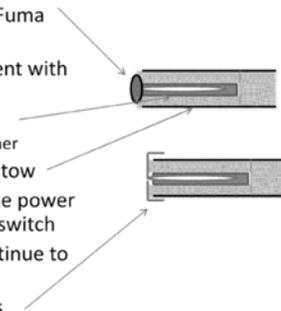
- The newest models attempt to resolve issues by combining the ‘atomizer’ and reservoir
- Less mess, simpler, less tampering, preserve the “razor blade model”
  - Smoke 51 appears unique in it’s down stream flow design



## Tobacco e-cig based on FUMA

### Concept

- Incorporate a heating element similar to the one found in Fuma brand e-cig
- Surround the heating element with the new tobacco/Calcium carbonate/glycerin
  - Possibly extrude these together
- Insulate with low efficiency tow
- Utilize an e-cig battery as the power source with flow activating switch
- Each plug = one use, so continue to sell in 20's
- Need quick connector mods



(Dkt. 60-1 at RJRV-F000154464, -471). Even with full awareness of the Smoke 51 device, RJR praised the Fuma device as superior and unique as compared to any device RJR had ever seen—praise that contradicts RJR’s litigation-inspired argument that the Smoke 51 device would have rendered the Fuma device obvious. Moreover, RJR’s allegations about the Smoke 51 device, which were a focus of RJR’s Answer and Counterclaims, were submitted to the Patent Office during the prosecution of the ’881 patent, and the Patent Office nevertheless issued the ’881 patent with broader claims than the ’604 patent. (Vallee Validity ¶¶44). All of the prior art that RJR tries to combine with the Smoke 51 device, the Han ’311 and Thorens references, were considered by the Patent Office during both the ’604 and ’881 patent prosecutions.

RJR’s remaining obviousness combinations have fatal infirmities that will prevent RJR from carrying its burden to prove that the Fuma patents are invalid. (Vallee Validity ¶¶118-289).

Moreover, Fuma will show that a multitude of factors and evidence, referred to as secondary indicia of non-obviousness, defeat RJR's allegation that the '604 and '881 patents were obvious. These include for example, i) that the Fuma invention has been copied by others, ii) that there was a long-felt but unmet need for the Fuma invention, iii) that others had tried but failed to solve the problems to which the invention is directed, iv) that the invention was praised by RJR and others when introduced, and v) that the Fuma invention was commercially successful.

As presented above in Section II.E, RJR copied the Fuma invention. Moreover, several other "top" companies in the marketplace have copied the Fuma patented design, such as Blu, Cirrus, Finiti Disposable, Square, and Bloog. (Dkt. 181-2, August 21, 2020 Expert Report of G. Vallee Regarding Validity at ¶298 [hereinafter "Vallee Validity"]).

RJR considered dozens, if not hundreds, of proposed designs for such a device during the 2007-2011 timeframe before releasing its infringing Vuse Solo product. (*Id.* ¶300). RJR rejected all those proposed designs, both those in the marketplace and those explored internally, and copied the Fuma patented e-cigarettes that Mr. Conley provided to Mr. Potter. (*Id.*). Furthermore, the market is replete with failed attempts to commercialize alternative smoking devices, including RJR's Premier and Eclipse products that cost over \$1 Billion to develop. (*Id.* ¶307). Overall, especially considering the decades-long unsuccessful efforts to come up with an alternative to burn-type cigarettes, and RJR's failed efforts in that regard, there is prevailing evidence in this case of failure of others and a long-felt but unsolved need.

Additionally, Fuma's patented invention was praised by others. As previously presented in Section II, Mr. Potter, RJR's VP of Strategic Innovations, said it best when he described the Fuma patented device as being unique and different and providing the closest experience to a burn-type cigarette as compared to all the other e-cigarette devices that RJR had been evaluating. (*Id.* ¶310). Likewise, Mr. Thompson, of e-cigarette competitor Spark, testified in a different e-cigarette patent litigation that adopting the design and orientation of the heating coil and wick as specified in the Fuma patents and in the asserted claims was a significant design improvement that solved problems that had confronted the industry. (*Id.* ¶¶305-306, 310).

Last, Fuma's products, the accused products, and other e-cigarette products that adopted Fuma's patented invention had great commercial success. (*Id.* ¶311). Regarding the accused products, projections presented to the RJR Vapor Corporation Board of Directors in or around June 2016 showed substantial and increasing sales for the infringing Vuse devices totaling well over \$1 Billion thru 2025. (*Id.*) Fuma also had significant commercial success selling its patented product when it was first released to the market. Sales of the patented e-cigarette went from approximately \$50,000 in the last quarter of 2009, over \$700,000 in 2010, to nearly \$3 million in 2011. (Dkt. 1 ¶22). When RJR itself sought to reverse-engineer the products sold by the "top e-cig retailers," RJR's disassembly of those products showed that the Blu, Cirrus, Finiti Disposable, Square, and Bloog devices all adopted Fuma's patented invention. (Vallee Validity ¶314).

In sum, Fuma will show that RJR infringes the '604 patent's "threaded requirement," that RJR willfully infringes both the '604 and '881 patents, and RJR will be unable to prove by clear and convincing evidence that the patent claims are invalid.

#### **IV. RJR'S PATENT INFRINGEMENT HAS RESULTED IN SUBSTANTIAL MONETARY DAMAGES TO FUMA.**

Fuma is entitled to "damages adequate to compensate" Fuma for RJR's patent infringement that must be "in no event less than a reasonable royalty for the use made of the invention by the infringer" along with "interest and costs as fixed by the court." 35 U.S.C. § 284.

Fuma's claim for damages is supported by Fuma's expert, Mr. Holzen. Mr. Holzen's opinion relies on the well-established Income Approach—a methodology of quantitative valuation to determine a reasonable royalty rate. (Holzen Damages ¶175). Under the Income Approach, "the value of the subject intangible asset is the present value of the expected economic income to be earned from the ownership of [a given] intangible asset," such as a right to use a patented technology. (*Id.*). As part of his use of the Income Approach, Mr. Holzen performed "an analysis of the profits that RJR[] earned from the sale of Accused Products and an analysis of the profits that Fuma would have earned from the sale of the Embodying Products." (*Id.*).

Then, using a Bill of Materials analysis—or "BOM Analysis"—Mr. Holzen properly apportioned the profit indicators on which he relied for his Income Approach quantitative evaluation. (*Id.* ¶186). "A BOM Analysis shares profits between licensing parties based on a comparison of the cost of the patented features relative to cost for the

entire product.” (*Id.*). Mr. Holzen explains that he apportioned the two profit indicators on which he relied “[i]n recognition of the fact that RJRV has contributed its own manufacturing processes, has taken on the business risks of selling Fuma’s patented invention at a national scale and is managing the process of distributing the Accused Products through thousands of its retailer customers.” (*Id.*). Mr. Holzen determined that the range of reasonable royalty rates was between 14% and 16.6%. (*Id.* ¶¶ 275-76).

Mr. Holzen then analyzed the various factors to construct a hypothetical negotiation between the parties based on the various *Georgia-Pacific* factors. (*Id.* ¶¶ 227-277). Taking a conservative approach that recognizes that “RJR[] was a large company with the resources and relationships to sell the Accused Product nationally and that the [hypothetical licensing] agreement would have been structured on non-exclusive terms,” Mr. Holzen concluded “that the parties would negotiate a final royalty at the low end of the Reference Range (14.0%).” (*Id.* ¶ 277).

RJR’s transaction history, industry considerations, and party considerations all establish that either a running royalty or a lump sum payment were acceptable payment structures for a license agreement reached during the hypothetical negotiation. (*Id.* ¶¶ 132-136). As to a running royalty and lump sum payments, “Fuma seeks monetary damages in an amount ... [up] to US\$135.4 million . . . .” (British American Tobacco Annual Report, Form 20-F at p. 240 (available at <https://www.bat.com/annualreport>) (parentheticals omitted)).

**V. FUMA WILL BE ENTITLED TO PERMANENT INJUNCTIVE RELIEF.**

After the jury finds that the Solo infringes the '604 patent claims and that RJR has failed to carry its burden to prove that all of the asserted claims of the '604 and '881 patents are invalid, Fuma will move for a permanent injunction to stop RJR's future infringement of the '604 and '881 patents. *See* 35 U.S.C. § 283. A permanent injunction is an equitable remedy for the Court to decide that requires a showing that (1) Fuma has incurred irreparable injury; (2) monetary damages and other legal remedies are inadequate to compensate for that injury; (3) an injunction is warranted in view of the balance of hardships and (4) the public interest. *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388, 391-92 (2006).

Here, Fuma has suffered irreparable harm because Fuma has been denied the recognition that it deserves for its innovations and patented inventions, which has caused Fuma's business prospects, market share, and reputation to be irreparably harmed in a way that cannot be readily calculated. Moreover, absent an injunction against RJR prohibiting further infringement, Fuma will be irreparably harmed and disadvantaged in future negotiations for licenses under its patents because other such infringers will believe that their continued infringement will not be stopped and will be emboldened to continue or begin infringement of Fuma's patented inventions if their sole risk is having to pay a reasonable royalty after protracted litigation.

Where, as here, an infringer "elects to build its business on product found to infringe," the infringer has no basis to complain about any hardship. *Odetics, Inc. v. Storage Tech. Corp.*, 14 F. Supp. 2d 785, 797 (E.D. Va. 1998) (quoting *Windsurfing Int'l*

*Inc. v. AMF, Inc.*, 782 F.2d 995, 1003 n.12 (Fed. Cir. 1986). Further, the public interest favors enforcement of intellectual property rights and “maintaining the integrity of the patent system.” *Id.* at 795; *see also Payless Shoesource, Inc. v. Reebok Int’l Ltd.*, 998 F.2d 985, 991 (Fed. Cir. 1993) (holding that district court abused its discretion in failing to consider public interest in enjoining infringement).

**VI. FUMA ANTICIPATES FILING MOTIONS FOR JUDGMENT AS A MATTER OF LAW.**

At the close of Fuma’s case-in-chief and after the close of RJR’s case-in-chief, Fuma anticipates moving this Court for entry of judgment as a matter of law that the Vuse Solo infringes the asserted claims of the ’604 patent, that RJR’s infringement of the ’604 and ’881 patents was willful, and that the asserted claims of the ’604 and ’881 are valid on the grounds that, based on the evidence presented, no reasonable jury could find for RJR on these issues. Fed. R. Civ. P. 50(a). Fuma anticipates renewing its motion at the end of all the evidence. *Id.* If for any reason the jury finds for RJR, contrary to the evidence, Fuma also anticipates renewing its request for judgment as a matter of law or requesting a new trial. Fed. R. Civ. P. 50(b), 59.

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/s/ Brandon M. Jordan  
Brandon M. Jordan  
THE LAW FIRM OF BRANDON M.  
JORDAN PLLC  
2800 Eisenhower Ave., Suite 220  
Alexandria, VA 22314  
Telephone: (703) 493-0231  
Facsimile: (703) 832-4806  
brandon@brandonjordan.net

/s/ Christopher P. Sullivan

Christopher P. Sullivan  
csullivan@robinskaplan.com  
Robert F. Callahan, Jr., Esq.  
rcallahan@robinskaplan.com  
ROBINS KAPLAN LLP  
800 Boylston Street  
Suite 2500  
Boston, MA 02199  
Telephone: (617) 267-2300  
Facsimile: (617) 267-8288

/s/ Dirk D. Thomas

Dirk D. Thomas  
DIRK D. THOMAS PLLC  
1775 Eye Street NW, Suite 1150  
Washington, DC 20006  
Telephone: (202) 587-5690  
Facsimile: (202) 587-5610  
dirk.thomas@dthomasllc.com

/s/ Robert A. Auchter

Robert A. Auchter  
AUCHTER PLLC  
1629 K Street, NW, Suite 300  
Washington, DC 20006  
Telephone: (703) 585-5721  
Facsimile: (703) 525-6059  
robert@auchterlaw.com

/s/ Kevin G. Williams

William K. Davis  
N.C. Bar No. 1117  
Kevin G. Williams  
N.C. Bar No. 25760  
BELL, DAVIS & PITT, P.A.  
100 North Cherry St., Suite 600  
Winston-Salem, NC 27120-1029  
Telephone: (336) 722-3700  
Facsimile: (336) 722-8153  
wdavis@belldavispitt.com  
kwilliams@belldavispitt.com

Counsel for *FUMA INTERNATIONAL, LLC*

### **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/ Brandon M. Jordan  
Brandon M. Jordan

### **CERTIFICATE OF SERVICE**

I hereby certify that, on October 25, 2021, I electronically filed the foregoing with the Clerk of Court using the CM/ECF system.

/s/ Brandon M. Jordan  
Brandon M. Jordan