

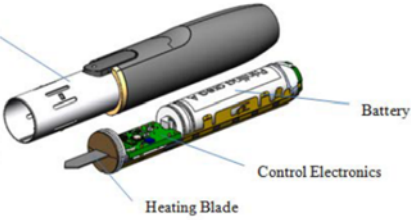





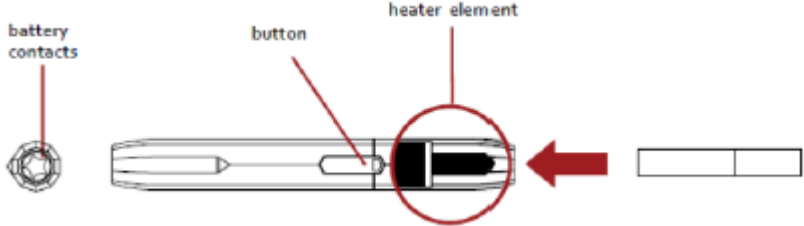

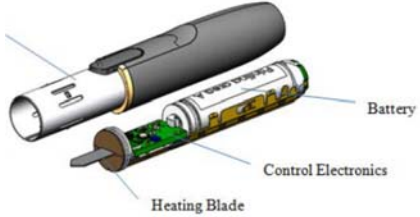


Exhibit 41

tent 9,901,123	PMI's IQOS 2.4
electrically-powered,	<ul style="list-style-type: none"> The IQOS holder is electrically-powered by a battery (shown on the right below).  <ul style="list-style-type: none"> “The IQOS Holder [is] an electrically powered” unit. Ex. 8 at 10. It “electrically heat[s]” the tobacco-containing Heatstick. <i>Id.</i> at 15. The proposed IQOS is an “Electronically Heated Tobacco System.” Ex. 12 at 218. Per PMI’s website, https://www.pmi.com/smoke-free-products/iqos-our-tobacco-heating-system, the IQOS systems use “an electronically controlled heater.”
-generating smoking article sing:	<ul style="list-style-type: none"> The IQOS holder heats a tobacco stick and releases an aerosol containing tobacco vapors. The IQOS Holder “generate[s] [a] nicotine-containing aerosol.” Ex. 8 at 10. The tobacco stick “produces an aerosol.” Ex. 12 at 6. The tobacco stick includes “[g]lycerol” and “[p]ropylene glycol.” <i>Id.</i> at 13; <i>see also, e.g., id.</i> at 229–30 (describing “glycerin” as a component of the aerosol); <i>id.</i> at 270 (“Glycerin, which has been added to the tobacco as an aerosol former, aids the formation of the aerosol that is inhaled.”). The ’123 patent describes these ingredients as aerosol-forming materials. <i>See, e.g.,</i> ’123 patent col. 8 ll. 21–22 (“Exemplary aerosol-forming materials include glycerin, propylene glycol, and mixtures thereof.”).
electrical power source in the form tery within a tubular outer housing a mouth-end and an end distal to the end	<ul style="list-style-type: none"> As shown in the figures below, the IQOS power source is a battery within an outer housing. The housing is tubular and has two ends, a mouth end (that holds the tobacco stick) and a distal end (that holds the battery).  <ul style="list-style-type: none"> The IQOS holder has a battery within a tubular outer housing. Ex. 12 at 22.

<p>Patent 9,901,123</p>	<p>PMI's IQOS 2.4</p>  <p>A "tobacco stick" is inserted into the holder as shown below, <i>id.</i> at 6, 159, and it has a "mouthpiece," <i>id.</i> at 10.</p>   <ul style="list-style-type: none"> • The IQOS holder contains a battery. Ex. 8 at 25 ("The Holder has a small battery, which stores enough energy for a single use (i.e. complete use of one HeatStick)."); <i>id.</i> at 15. The Heatstick, which is inserted into the Holder, has a "mouthpiece." <i>Id.</i> at 16. <p>At least one electrical resistance heater is disposed within the holder by said electrical power source</p> <ul style="list-style-type: none"> • The heating in the IQOS holder is done through a heating blade, where the heat is produced by a conductive material laid on a ceramic support. The heating blade is formed of a heating element, a resistive track, printed onto a ceramic blade.  <ul style="list-style-type: none"> • The heating blade in the IQOS holder is powered by the battery. Ex. 8 at 25. • The heater in the IQOS holder comprises a "glass-coated metallic resistive element through which electricity is passed to create the heating." Ex. 12 at 1,047. "The battery powers microprocessor and heating system." <i>Id.</i> at 504. <p>At least a portion of the resistance heating element is elongated and extending downstream toward the mouthpiece of the outer housing, the elongated portion of the resistance heating element being proximal to the center of the outer housing</p> <ul style="list-style-type: none"> • As shown in the figures below, at least a portion of the heating blade is elongated and extending downstream toward the mouth end of the outer housing, and the elongated portion is proximal to the center of the outer housing.
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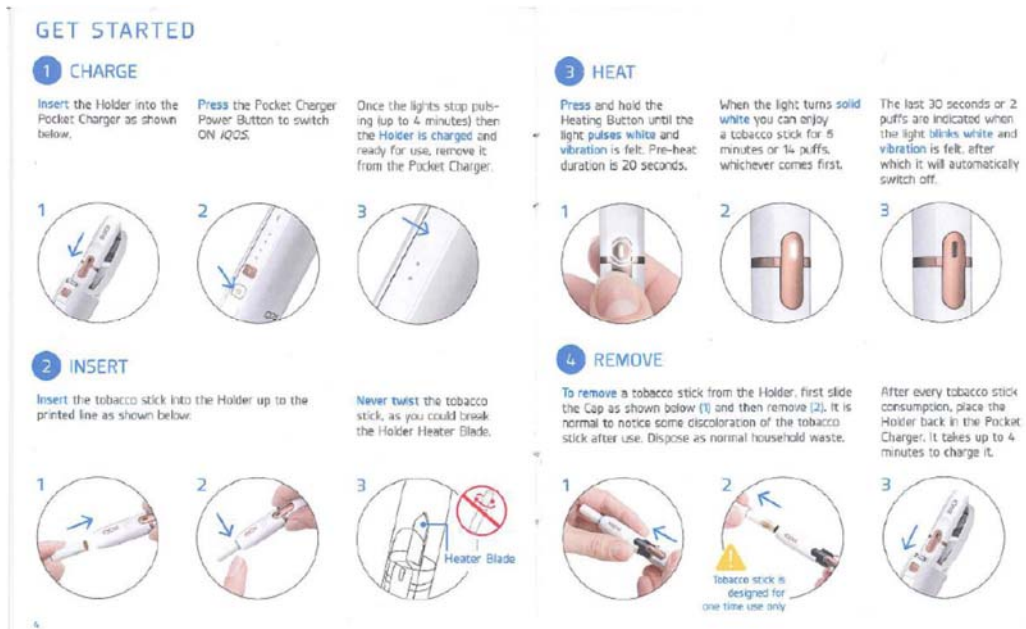
<p>Patent 9,901,123</p>	<p>PMI's IQOS 2.4</p>
	 <p>Extrusion</p>  <ul style="list-style-type: none"> The heating blade is elongated and extends toward the mouth end; it is proximal to the center of the outer housing. Ex. 12 at 1,048.  <ul style="list-style-type: none"> The tobacco stick is heated via a “heating blade” that is inserted into the tobacco. Ex. 8 at 15. The tobacco is on one end of the Heatstick and the other side has a mouth filter. <i>Id.</i> at 16.
<p>Microcontroller within the tubular outer housing and adapted for regulating current through the electrical resistance and</p>	<ul style="list-style-type: none"> In the IQOS, a microcontroller controls the current flow through heating blade. The microcontroller is located within the tubular outer housing.  <ul style="list-style-type: none"> The holder includes a “microcontroller[]” that controls the “heating process.” Ex. 12 at 8. This “will turn off the heating process in the event that overheating is detected by the thermal monitoring system.” <i>Id.</i> at 22.  <ul style="list-style-type: none"> “The Holder is electronically controlled to maintain a specific temperature range that allows generation of aerosol and prevents reaching temperatures where combustion can occur.” Ex. 8 at 15.

Patent 9,901,123

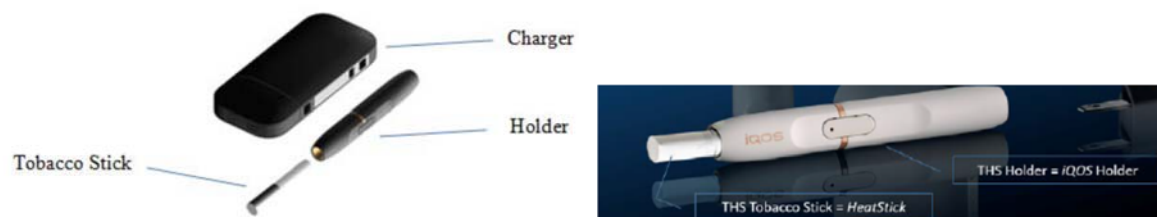
PMI's IQOS 2.4

igarette-type device removably engaged with the mouth-end of the tubular housing and comprising

- In the IQOS, the consumable resembles a small cigarette, one end holds the tobacco and the other holds a filter through which the user inhales. The tobacco stick is designed for one time use. As shown below, the stick is removably engaged with the mouth end of the tubular housing.



- A “tobacco stick” is inserted into the mouth-end, Ex. 12 at 6, 159, and it is later “[r]emove[d],” *id.* at 160.



- The Heatstick is not intended for “reus[e].” Ex. 8 at 11, 15. The Heatstick is removed after each use. *Id.* at 15 (“[The IQOS 2.4] is designed to be used for a single Heatstick . . . after which . . . the used Heatstick is discarded.”); *see also id.* at 85, 86 (describing “[r]emov[al]” of the Heatstick).

tobacco segment circumscribed by a material and comprising a

- The tobacco stick is within an “outer paper” and includes a tobacco plug, Ex. 12 at 10, which, when heated, “produces an aerosol.” *Id.* at 6. The tobacco plug includes “[g]lycerol” and “[p]ropylene glycol,” *id.* at 13; *see also, e.g., id.* at 229–30

Patent 9,901,123

PMI's IQOS 2.4

material and an aerosol-forming material

(describing “glycerin” as a component of the aerosol); *id.* at 270 (“Glycerin, which has been added to the tobacco as an aerosol former, aids the formation of the aerosol that is inhaled.”). The ’123 patent describes these ingredients as aerosol-forming materials. *See, e.g.*, ’123 patent col. 8 ll. 21–22 (“Exemplary aerosol-forming materials include glycerin, propylene glycol, and mixtures thereof.”).

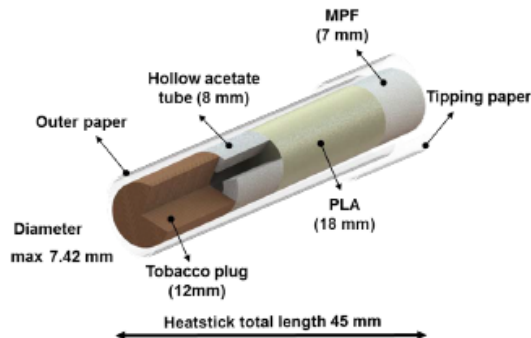


Figure 3 Cross Section of a Tobacco Stick

Ex. 12 at 10.

- The Heatstick has an “outer paper” and a “tobacco plug,” and looks as follows:

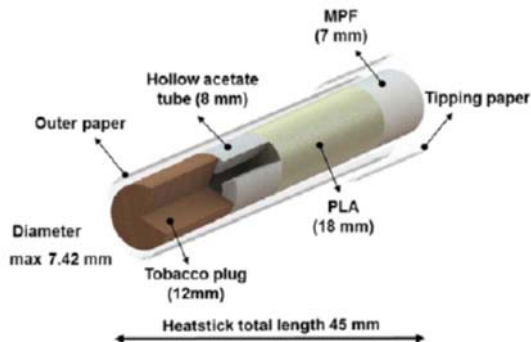


Figure 2: Heatstick Components

Ex. 8 at 16.

- The IQOS consumable contains reconstituted tobacco (23.5-26.9%) and aerosol-forming material: glycerol (5.5-7%) and propylene glycol (0.037-0.326%). *See* <https://www.pmi.com/our-business/about-us/products/making-heated-tobacco-products>. The ’123 patent describes these ingredients as aerosol-forming materials. *See, e.g.*, ’123 patent col. 8 ll. 21–22 (“Exemplary aerosol-forming materials include glycerin, propylene glycol, and mixtures thereof.”).
- The outer paper circumscribes the tobacco plug.

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