

**IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF MASSACHUSETTS**

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iROBOT CORPORATION,

Plaintiff,

v.

SHARKNINJA OPERATING, LLC,  
SHARKNINJA MANAGEMENT, LLC, and  
SHARKNINJA SALES COMPANY,

Defendants.

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) Civil Action No. 1:19-cv-12125  
) PUBLIC VERSION  
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) JURY TRIAL DEMANDED  
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) ORAL ARGUMENT REQUESTED  
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)

**MEMORANDUM IN SUPPORT OF MOTION FOR PRELIMINARY INJUNCTION**

**TABLE OF CONTENTS**

**I. BACKGROUND ..... 2**

A. The Holiday Sales Season Warrants Immediate Relief ..... 2

B. The Story of iRobot is Founded on Innovation: iRobot Pioneered Robotic Vacuums ..... 2

C. The Story of Shark is One of Infringement: Shark Launched Its Infringing IQ Robot to Copy iRobot’s Roomba® ..... 4

**II. LEGAL PRINCIPLES ..... 5**

**III. ARGUMENT ..... 6**

A. iRobot is Likely to Succeed on its Patent Infringement Claims ..... 6

1. Shark Infringes the ’586 Patent’s Claims 1, 4, 5, and 11..... 6

2. Shark Infringes the ’294 Patent’s Claims 1, 5, 8 and 9..... 7

3. Shark Infringes the ’048 Patent’s Claim 12 ..... 8

4. iRobot’s Patents Are Valid and Should Be Enforced Against Shark ..... 9

B. iRobot Will Suffer Imminent Irreparable Harm Unless Shark Is Enjoined..... 10

1. The Shark IQ Robot’s Infringement Will Cause iRobot Irreparable Losses of Customers, Market Share, and Sales ..... 10

2. The Shark IQ Robot Has Already Caused Price Erosion That Will Irreparably Harm iRobot If Not Enjoined..... 15

3. Shark’s Infringement Will Irreparably Harm iRobot’s Future Innovation ..... 16

4. Shark’s Infringing IQ Robot Prematurely and Unfairly Eliminated iRobot’s Technological Lead-Time ..... 16

5. Shark’s IQ Robot Will Cause Irreparable Reputational Harm ..... 17

6. Industry Analysts Recognize That Shark’s IQ Robot Will Irreparably Harm iRobot..... 18

C. The Balance of Hardships Favors Enjoining Shark’s Infringement ..... 19

D.	The Public Interest Would Be Served by Enjoining Shark.....	20
<b>IV.</b>	<b>CONCLUSION .....</b>	<b>20</b>

**TABLE OF AUTHORITIES**

	<b>Page(s)</b>
<b>Cases</b>	
<i>Abbott Labs. v. Sandoz, Inc.</i> , 544 F.3d 1341 (Fed. Cir. 2008).....	5
<i>Advanced Transit Dynamics, Inc. v. Ridge Corp.</i> , Case No. CV 15-1877 BRO, 2015 WL 12516692 (C.D. Cal. Aug. 24, 2015).....	14
<i>Apple Inc. v. Samsung Elecs. Co.</i> , 809 F.3d 633 (Fed. Cir. 2015).....	17
<i>Asetek Danmark A/S v. CMI USA, Inc.</i> , 100 F. Supp. 3d 871 (N.D. Cal. 2015) .....	10
<i>Atlas Powder Co. v. Ireco Chems.</i> , 773 F.2d 1230 (Fed. Cir. 1985).....	5
<i>Broadcom Corp. v. Emulex Corp.</i> , 732 F.3d 1325 (Fed. Cir. 2013).....	11
<i>Celsis In Vitro v. CellDirect, Inc.</i> , 664 F.3d 922 (Fed. Cir. 2012).....	19, 20
<i>Curlin Med. Inc. v. Acta Med., LLC</i> , 228 F. Supp. 3d 355 (D.N.J. 2017) .....	16
<i>Douglas Dynamics, LLC v. Buyers Prods. Co.</i> , 717 F.3d 1336 (Fed. Cir. 2013).....	14, 17, 20
<i>Everett Labs, Inc. v. Breckenridge Pharm., Inc.</i> , 573 F. Supp. 2d 855 (D.N.J. 2008) .....	19
<i>EyeTicket Corp. v. Unisys Corp.</i> , 155 F. Supp. 2d 527 (E.D. Va. 2001) .....	17
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966).....	10
<i>Lego A/S v. Zuru Inc.</i> , Civil No. 3:18-cv-2045, 2019 WL 4643718 (D. Conn. July 8, 2019) .....	12
<i>Mentor Graphics Corp. v. Quickturn Design Sys., Inc.</i> , 999 F. Supp. 1388 (D. Or. 1997), <i>aff'd</i> , 150 F.3d 1374 (Fed. Cir. 1998).....	19

<i>Microsoft Corp. v. i4i Ltd. P’ship</i> , 564 U.S. 91 (2011).....	9, 10
<i>Mylan Institutional LLC v. Aurobindo Pharma Ltd.</i> , 857 F.3d 858 (Fed. Cir. 2017).....	6
<i>Parah, LLC v. Mojack Distribs., LLC</i> , Case No. 18-1208-EFM-TJJ, 2018 WL 4006057 (D. Kan. Aug. 22, 2018).....	15
<i>Power Survey, LLC v. Premier Util. Servs., LLC</i> , 61 F. Supp. 3d 477 (D.N.J. 2014).....	18
<i>Robert Bosch LLC v. Pylon Mfg. Corp.</i> , 659 F.3d 1142 (Fed. Cir. 2011).....	19
<i>Sanofi-Synthelabo v. Apotex, Inc.</i> , 470 F.3d 1368 (Fed. Cir. 2016).....	20
<i>Schwabel Corp. v. Conair Corp.</i> , 122 F. Supp. 2d 71 (D. Mass. 2000), <i>aff’d</i> , 15 F. App’x 800 (Fed. Cir. 2001).....	10
<i>SEB S.A. v. Montgomery Ward &amp; Co.</i> , 77 F. Supp. 2d 399 (S.D.N.Y. 1999), <i>aff’d</i> , 243 F.3d 566 (Fed. Cir. 2000).....	10
<i>Trebro Mfg. Inc. v. FireFly Equip., LLC</i> , 748 F.3d 1159 (Fed. Cir. 2014).....	11
<i>TruePosition Inc. v. Andrew Corp.</i> , 568 F. Supp. 2d 500 (D. Del. 2008).....	11
<i>Vanda Pharms. Inc. v. Roxane Labs., Inc.</i> , 203 F. Supp. 3d 412 (D. Del. 2016), <i>aff’d</i> , 887 F.3d 1117 (Fed. Cir. 2018).....	16
<i>Won-Door Corp. v. Cornell Iron Works, Inc.</i> , 981 F. Supp. 2d 1070 (D. Utah 2013).....	18
<b>Statutes</b>	
35 U.S.C. § 283.....	5

This Court has the power to issue preliminary injunctions to enjoin clear wrongful conduct before it can cause irreparable harm to another’s rights and property. Such relief is not only appropriate here, but necessary. Ever since it launched the groundbreaking Roomba® robotic vacuum almost twenty years ago, iRobot has been the technological leader in the now billion-dollar market for robotic vacuum cleaners (RVC). iRobot’s current premium offerings, the Roomba® i7+ and s9+, offer unprecedented features, autonomy, and are protected by multiple iRobot patents. Having already received Time’s “Invention of the Year” award for its i7+, iRobot is about to head into the most critical period of the year—the holiday season—*netting over 50% of its sales*. In an attempt to grab as much of the RVC market share as possible, iRobot’s competitor Shark—with full knowledge and disregard for iRobot’s intellectual property—just launched the Shark IQ Robot, its first-ever attempt at an allegedly premium RVC that copies the features of iRobot’s i7+, including key patented technology. Lest there be any doubt about its intentions, Shark pointedly touts those infringing features, mimics iRobot’s marketing, and boasts that it can deliver iRobot’s technology at “half the price of an iRobot i7.”



While it may have been easy for Shark to rush its copycat product to market in time for the holiday sales season, it will be impossible for iRobot to recoup its losses, maintain its premium place in the RVC market, and restore its reputation and brand, if Shark’s infringement is allowed to go unabated until the conclusion of this case a year or more from now. Already, industry

analysts have downgraded iRobot stock because they see the Shark IQ Robot as a harbinger of the “commoditization of the high end of iRobot’s portfolio.” In the face of Shark’s attack and these industry predictions, iRobot is already cutting back on R&D programs and preparing for layoffs. If iRobot’s investment in R&D and patent rights are to be protected, Shark must be enjoined now—before it can benefit from its blatant infringement for one or even two holiday seasons.

## **I. BACKGROUND**

### **A. The Holiday Sales Season Warrants Immediate Relief**

More than 50% of iRobot’s sales come during the last three months of the year. There is no time more impactful and more critical than the holiday sales season for iRobot. The impact of an attack on iRobot during this time would be immediate—as iRobot’s revenues fall, so too would its market leadership, brand loyalty, premium reputation, and cycle of industry-leading innovation. (Lichtenheim Decl. ¶ 26;<sup>1</sup> Ugone Decl. ¶ 64.)<sup>2</sup>

### **B. The Story of iRobot is Founded on Innovation: iRobot Pioneered Robotic Vacuums**

A public company originally founded by three MIT roboticists and built on a history of innovation, iRobot is far-and-away the market leader for RVCs and offers advanced technology in its premium consumer products. iRobot’s position in the market is no accident: after a decade of developing purpose-built and cutting-edge robots for myriad uses, iRobot applied its expertise to forever change the vacuum industry with the launch of its groundbreaking Roomba® RVC in

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<sup>1</sup> The October 14, 2019 Declaration of Jennifer Lichtenheim (“Lichtenheim Decl.”) is being filed contemporaneously with this Memorandum.

<sup>2</sup> The October 15, 2019 Declaration of Dr. Keith R. Ugone (“Ugone Decl.”) is being filed contemporaneously with this Memorandum.

2002.<sup>3</sup> Since then, RVCs have gone from a niche fringe product to a cleaning tool relied upon in tens of millions of households. That consumer adoption of RVC technology has been in large part due to hundreds of millions of dollars of R&D investment by iRobot and the hard work of its employees. For their efforts, iRobot has been awarded hundreds of U.S. patents for its innovations in RVC technology, which it has continually offered to consumers through its next-generation products. (Saeger Decl. ¶ 12.)<sup>4</sup> Indeed, iRobot’s Roomba® robots drove RVC market growth from basically zero sales in 2002 to approximately 2.6 million units sold in 2018 in the United States alone. (Lichtenheim Decl. ¶ 7.)

Today, iRobot’s current top-of-the-line products, the Roomba® i7+ and s9+, offer several features critical to their success: “selected cleaning,” “recharge/resume,” and “self-empty.” (Lichtenheim Decl. ¶ 8; Saeger Decl. ¶ 7.) The i7+ and s9+ work by first creating a map of the home, which is then used by the RVC to allow a user to schedule which rooms to clean and when (*i.e.*, “selected cleaning”). If the robot runs low on battery power while vacuuming, it knows how to go back to its base station and recharge, and when ready, it will pick back up where it left off (*i.e.*, “recharge/resume”). And when the robot finishes cleaning, it can empty its own onboard dust bin into the base station (*i.e.*, “self-empty”). These advancements led to the Roomba® i7+ being awarded one of TIME Magazine’s “Inventions of the Year.” (Ex. 1.) iRobot also was awarded several patents on these features, including the three asserted in this motion: “selected cleaning” (U.S. 9,921,586), “recharge/resume” (U.S. 9,550,294), and “self-empty” (U.S. 9,492,048).

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<sup>3</sup> Indeed, there was hardly even a “market” at that time—consumers were generally doubtful that a robot could actually vacuum their home, and several established vacuum companies, including Electrolux and Dyson, had tried but failed to develop marketable RVCs. (Lichtenheim Decl. ¶ 7; *see also* Saeger Decl. ¶ 6.)

<sup>4</sup> The October 14, 2019 Declaration of Tim Saeger (“Saeger Decl.”) is being filed contemporaneously with this Memorandum.



**C. The Story of Shark is One of Infringement: Shark Launched Its Infringing IQ Robot to Copy iRobot's Roomba®**

Shark, on the other hand, is a Chinese-private-equity-owned appliance maker with a history of trying to follow the leader by offering what it claims to be comparable technology at a lower price.<sup>5</sup> Until three weeks ago, Shark's primary robot vacuum was not even its own design—it simply put the Shark name on a vacuum believed to be designed and manufactured by another company, Ecovacs. Because Shark invests less in research and development and offers lower-quality products, it can unsurprisingly offer its products at a lower price than innovators like iRobot.

Shark employed this strategy when it entered the RVC market in 2017 with the ION robot, and, in just over a year, Shark took ██████████ RVC market share and quickly became iRobot's biggest competitor in the U.S. (Lichtenheim Decl. ¶ 17.) While the Shark ION's features and capabilities kept it from competing at the premium level, Shark has now set its sights higher. In its apparent desire to capitalize on premium robot purchases over the 2019 holiday season, Shark chose to copy iRobot's innovative features ("selected cleaning," "recharge/resume," and "self-empty"), running roughshod over iRobot's patents in the process.

Shark is not even shy about being a copycat—right next to its listing of the same advanced iRobot-patented features included in the Shark IQ Robot, Shark touts to consumers that it offers those infringing features at "half the price of the iRobot i7+." (Ex. 2 at 1.) Shark's sales pitch to consumers is largely based on the patented features that it copied from iRobot:

- "Home mapping lets you select which rooms to clean—or when to clean them." (Ex. 3.) (*i.e.*, the "selected cleaning" of the '586 patent);

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<sup>5</sup> "Shark" herein refers collectively to the Defendants SharkNinja Operating LLC, SharkNinja Management Company, and SharkNinja Sales Company.

- “Recharges when needed and picks up where it left off.” (Ex. 4 at 2.) (*i.e.*, the “recharge/resume” of the ’294 patent); and
- “Your robot empties automatically after every cleaning session into a bagless base that holds up to 30 days’ worth of dust and debris.” (Ex. 3.) (*i.e.*, the “self-empty” of the ’048 patent).

It is no wonder that on the same day Shark launched its infringing IQ Robot, the first person to review the product on Amazon.com warned: “This sad robot is just a copy of the room[b]a i7+ and the room[b]a s9+ there could be a law suit soon.” (Ex. 5.) Shark must have known this too.

Within weeks of Shark’s IQ Robot launch, iRobot took notice of Shark’s infringement and promptly sent Shark a letter explaining that “while iRobot welcomes fair competition, we cannot and will not tolerate infringement of our patented inventions,” and requested that Shark take its products off of the market. (Ex. 6, C&D Letter.) Shark did not address iRobot’s concerns and apparently has instead girded itself for a fight—filing an anticipatory declaratory judgment lawsuit on the Friday night before this holiday weekend against iRobot in Delaware, despite both companies’ headquarters being in greater Boston and within 16 miles of this Court. (Ex. 7, *SharkNinja Operating LLC v. iRobot Corp.*, Complaint filed in the Southern District of Florida on October 4, 2019.)

## **II. LEGAL PRINCIPLES**

The Court may grant a preliminary injunction “to prevent the violation of any right secured by patent” and to “preserve the relative positions of the parties” during litigation. 35 U.S.C. § 283; *Abbott Labs. v. Sandoz, Inc.*, 544 F.3d 1341, 1345 (Fed. Cir. 2008). Preliminary injunctions serve an important role in protecting patentees like iRobot, because without such relief, “infringers could become compulsory licensees for as long as the litigation lasts.” *Atlas Powder Co. v. Ireco Chems.*, 773 F.2d 1230, 1233 (Fed. Cir. 1985). iRobot meets the four-part test for a preliminary injunction: (1) a reasonable likelihood of success; (2) irreparable harm; (3) a balance of hardships in its favor;

and (4) that the public interest favors the injunction. *Mylan Institutional LLC v. Aurobindo Pharma Ltd.*, 857 F.3d 858, 865 (Fed. Cir. 2017).

### **III. ARGUMENT**

#### **A. iRobot is Likely to Succeed on its Patent Infringement Claims**

iRobot’s likelihood of success is exceedingly high. The Shark IQ Robot with Self-Empty (*e.g.*, model R101AE) infringes not just one, but *ten* claims of the three patents asserted in this motion, which Dr. Reinholtz fully explains in his accompanying declaration and report.<sup>6</sup> The Shark IQ Robot (*e.g.*, model R100) infringes nine claims of the ’586 and ’294 patents. (*Id.*)

##### **1. Shark Infringes the ’586 Patent’s Claims 1, 4, 5, and 11**

iRobot’s ’586 patent is a foundational patent for the advanced mapping and control capabilities of iRobot’s premium Roomba® products. The patent claims, in general, a mobile “robotic cleaning device” including “a robot body,” “a drive supporting the robot body,” “a cleaning apparatus,” and a “processor” with a wireless data connection. (Ex. 8, claim 1.) The invention allows a user to send it “data indicative of a user selection of one or more rooms in the home and a user selection of a schedule to clean the floor.” (*Id.*) Consumers highly value this feature, often referred to as “selected cleaning.” (Lichtenheim Decl. ¶ 10; Reinholtz Decl. ¶ 19.)

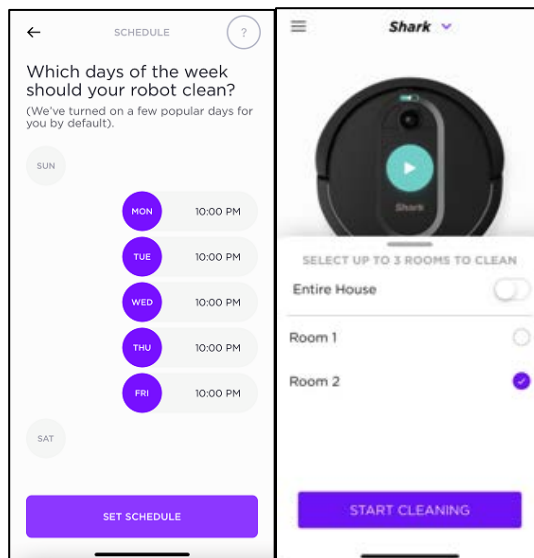
The Shark IQ Robot meets every limitation of claims 1, 4, 5, and 11 of the ’586 patent, as Dr. Reinholtz explains in detail. (Reinholtz Decl. ¶¶ 114-177.) There can be no credible dispute that the Shark IQ Robot includes the mechanical components of these claims, such as wheels that are part of the “drive supporting the robot body above a floor surface,” and a brushroll that is the “cleaning apparatus to clean the floor surface.” And as shown in the screenshots to the right, a

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<sup>6</sup> The October 14, 2019 Declaration of Dr. Charles Reinholtz (“Reinholz Decl.”) is being filed contemporaneously with this Memorandum.

user may pick a schedule for the Shark IQ Robot, as required by claim 1: “a user selection of one or more rooms in the home and user selection of a schedule...”

The left screenshot shows the interface (via the “Shark Clean App”) for selecting the days and times to clean, and on the right screenshot the user may select which rooms to clean at each time (up to three rooms). (Reinholtz Decl. ¶ 140.)

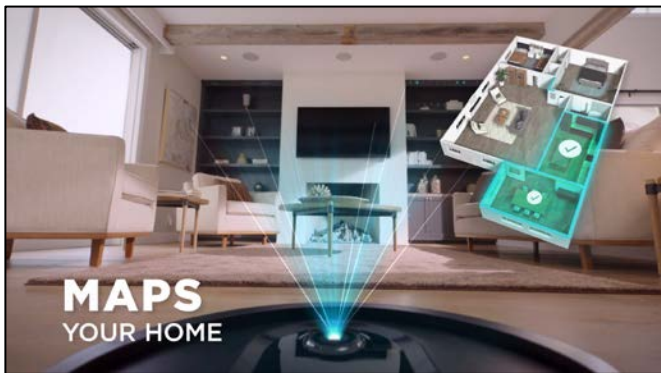


## 2. Shark Infringes the '294 Patent's Claims 1, 5, 8 and 9

iRobot's '294 patent helped make robotic vacuuming practical for a typical home with multiple rooms. The '294 patent claims, in general, an “autonomous cleaning robot” with an “undercarriage,” “motive system,” and “energy storage unit.” (Ex. 9, claim 1.) It also has “a navigational control system” whereby the robot “map[s] the room with respect to objects as points of reference,” then “return[s] the robot to the base charging station” if it has a “need to recharge,” and once ready, it will “continue to clean the room.” (*Id.*) Certain dependent claims, including claim 5, further require that after recharging, the robot returns “to the portion of the room still requiring cleaning.” (*Id.*, claim 5.) The technology claimed in the '294 patent allows an RVC to navigate and clean a home with large or multiple rooms, even if it requires multiple battery charges, all the while reducing the amount of times it overlaps and cleans the same place. (Reinholtz Decl. ¶¶ 39-114.) This feature, often referred to as “recharge/resume,” is very significant to consumer purchase decisions. (Lichtenheim Decl. ¶ 12; Reinholtz Decl. ¶¶ 75-89)

The Shark IQ Robot meets every limitation of claims 1, 5, 8, and 9 of the '294 patent. (Reinholtz Decl. ¶¶ 39-114.) The “motive system” is met by components including the wheels and motors, while Shark's placement of a battery meets the '294 patent's “energy storage unit

supported by the undercarriage” limitation. Shark itself touts that its IQ Robot has the recited “navigational control system” that “map[s] the room with respect to objects as points of reference,” in the below left screen capture from a Shark video. (Ex. 10.) The Shark IQ Robot also “return[s] the robot to the base charging station... to recharge the energy storage unit” and then “continue[s] to clean the room,” as demonstrated by tests of the product and explained in the below right picture from the Shark Owner’s Guide. (Ex. 29 Recharge & Resume; Reinholtz Decl. ¶¶ 51-55.)



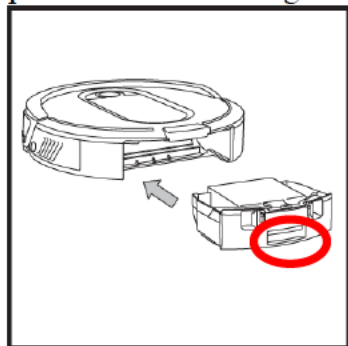
### 3. Shark Infringes the '048 Patent's Claim 12

iRobot's '048 patent covers a feature that enables the next level of robot capability and hands-off vacuuming. The '048 patent claims, in general, a “cleaning robot system” that includes a “robot” and also “a robotic cleaner maintenance station.” (Ex. 12, claim 12.) The “maintenance station” has its own internal vacuum that sucks the dirt and debris out of the robot’s “cleaning bin” (i.e., dust bin). (*Id.*) This happens when the robot docks its “service opening” against an “evacuation passageway” on the “maintenance station.” (*Id.*) The end result of this invention is a system where the user does not need to empty the dust bin of the robot, and can instead empty the “collection bin” of the “maintenance station” much less frequently, e.g., once a month. This feature, often referred to as “self-empty,” is a premium feature that is changing the RVC market.

(Lichtenheim Decl. ¶ 11; Reinholtz Decl. ¶ 20.) The '048 patent specifically requires that the vacuum in the maintenance station be a “bagless cyclonic vacuum.” (Ex. 12, claim 12.)<sup>7</sup>

The Shark IQ Robot meets every limitation of claim 12 of the '048 patent. (Reinholtz Decl. ¶¶ 178-232.) Again, the Shark IQ Robot meets the '048 patent’s “drive system supporting the chassis” and the “cleaning assembly.” Specific to the '048 patent claims, the Shark IQ Robot has the claimed “service opening in a bottom portion of the cleaning bin” that it docks to the “evacuation passageway” in the Self Empty base for the “maintenance station” to “evacuate [the] robotic cleaner,” as shown in the diagrams below taken from the Shark IQ Robot Self-Empty, Robot Vacuum, Owner’s Guide, RV1000AE Series at 5, 8.

“service opening in a bottom portion of the cleaning bin”



Ex. 11 at 8.

“evacuation passageway”



Id. at 5

#### 4. iRobot’s Patents Are Valid and Should Be Enforced Against Shark

iRobot’s patents are presumed valid. *Microsoft Corp. v. i4i Ltd. P’ship*, 564 U.S. 91, 95 (2011). That presumption is particularly strong here, where the USPTO thoroughly investigated the asserted patents for years. Not surprisingly, in neither its “we’re going to keep selling” letter nor its anticipatory suit did Shark say anything about or contest the validity of iRobot’s patents.

<sup>7</sup> The Shark IQ Robot uses a cyclonic vacuum and satisfies this limitation. The iRobot RVCs’ self-empty feature adds a bag in the maintenance station as an additional feature to cleanly package and avoid spreading the dust evacuated from the robot.

And even if Shark did challenge validity, it will face a burden of showing invalidity by *clear and convincing evidence*, which it cannot meet. *See Microsoft*, 564 U.S. at 95. Indeed, courts have found copying to be probative of patent validity, so Shark’s blatant copying of iRobot’s patented technology and products further negates any invalidity challenge. *Graham v. John Deere Co.*, 383 U.S. 1, 17-18 (1966) (courts must consider copying and other factors as objective indicia of non-obviousness); *see also Asetek Danmark A/S v. CMI USA, Inc.*, 100 F. Supp. 3d 871, 878 (N.D. Cal. 2015) (finding non-obviousness in part due to “copying of the invention by others”).

**B. iRobot Will Suffer Imminent Irreparable Harm Unless Shark Is Enjoined**

A patent is, by definition, a right to exclude others from practicing the patented invention. Damages awarded after-the-fact from an infringing competitor are, by contrast, a compulsory license and often insufficient to make a patent owner whole. Here, where Shark copied iRobot’s market differentiating features and seeks to use iRobot’s patented technology against it, absent a preliminary injunction, iRobot faces imminent irreparable harm of multiple types, as detailed below. The timing of Shark’s campaign, at the start of the critical holiday sales season, deepens the irreparable harm that iRobot will suffer, and warrants immediate relief. (Lichtenheim Decl. ¶¶ 26; Ugone Decl. ¶ 64.) *See Schwabel Corp. v. Conair Corp.*, 122 F. Supp. 2d 71, 74 (D. Mass. 2000) (granting preliminary injunction against infringer and reasoning that “[t]he holiday season is the hot selling season for curling irons”), *aff’d*, 15 F. App’x 800 (Fed. Cir. 2001); *SEB S.A. v. Montgomery Ward & Co.*, 77 F. Supp. 2d 399, 402 (S.D.N.Y. 1999) (similar), *aff’d*, 243 F.3d 566 (Fed. Cir. 2000).

**1. The Shark IQ Robot’s Infringement Will Cause iRobot Irreparable Losses of Customers, Market Share, and Sales**

Sales of the Shark IQ Robot will come at iRobot’s expense. iRobot and Shark are direct competitors, and it is beyond doubt that Shark targets iRobot, promotes its IQ Robot as an

alternative to Roomba<sup>®</sup>, and does not target any other RVC manufacturer in that fashion. (Lichtenheim Decl. ¶¶ 17, 19, 22; Ugone Decl. ¶¶ 44-45.) For example, Shark frequently claims that it offers the same or similar technology for “half the price of the iRobot i7+”. (Ex. 2; Lichtenheim Decl. ¶ 22.) Despite iRobot’s strong reputation for innovation and quality, an iRobot study found [REDACTED] [REDACTED] (Lichtenheim Decl. ¶ 22.)

Shark also deliberately tries to lure away online customers who specifically search for iRobot’s product, by paying Google to direct consumers to sharkclean.com over iRobot’s website, even when they specifically search for iRobot and its product names such as “Roomba.” (Lichtenheim Decl. ¶ 23.) In fact, Shark has chosen to target Google users who search for “Roomba i7” so that their search results prioritize Shark’s own website as the top search result, above even iRobot’s website. (Lichtenheim Decl. ¶ 23; Ex. 21; Ugone Decl. ¶ 46.) Shark similarly tries to persuade its retail stores, such as Lowe’s, to allow it to display the Shark IQ Robot side-by-side with iRobot’s Roomba<sup>®</sup>. (Lichtenheim Decl. ¶ 24.)

Shark’s extensive targeting of iRobot shows how “every sale to [the infringer] is essentially a lost sale to [the patentee],” which “also translates into a lost customer,” irreparably injuring the iRobot’s market share. *Trebro Mfg. Inc. v. FireFly Equip., LLC*, 748 F.3d 1159, 1170 (Fed. Cir. 2014) (granting preliminary injunction); *see also Broadcom Corp. v. Emulex Corp.*, 732 F.3d 1325, 1337 (Fed. Cir. 2013) (affirming permanent injunction and reasoning that “[t]he evidence showed that Broadcom lost market share as a result of Emulex’s competition—a clear measure of competition and harm.”); *TruePosition Inc. v. Andrew Corp.*, 568 F. Supp. 2d 500, 531 (D. Del. 2008) (finding irreparable harm supported permanent injunction); (Ugone Decl. ¶¶ 46-47). Further compounding this harm is the strong customer loyalty to the iRobot brand—the most likely



consumers to buy a premium iRobot Roomba® are those who already bought one. (Lichtenheim Decl. ¶ 27.) Therefore, if Shark steals a sale from iRobot now, that is not the only loss—iRobot also loses the high odds of selling a subsequent Roomba® to that same customer. (*Id.*) *Lego A/S v. Zuru Inc.*, Civil No. 3:18-cv-2045, 2019 WL 4643718, at \*16 (D. Conn. July 8, 2019) (finding irreparable harm when infringement leads to generations of lost sales).

Shark’s copying is so unabashed that it also copied iRobot’s marketing playbook. The phrases that Shark uses to describe key features of its IQ Robot, including iRobot’s patented technology at issue here, are strikingly similar to iRobot’s own marketing. The table below shows iRobot’s marketing phrases juxtaposed with Shark’s copy of them, with the similarities underlined.

	<b>iRobot’s Marketing Claims</b>	<b>Shark’s Similar Marketing Claims</b>
<b>Selected Cleaning</b>	<u>Choose which rooms are cleaned and when in the iRobot HOME App.</u> (Ex. 13.)	Home mapping lets you <u>select which rooms to clean—or when to clean them—through the app.</u> (Ex. 3.)
	<u>Imprint™ Smart Mapping allows you to control which rooms are cleaned and when.</u> (Ex. 14.)	<u>Total home mapping with room select maps your home and lets you choose which rooms to clean or avoid</u> (Ex. 18.)
	Connect and <u>schedule from anywhere.</u> (Ex. 15.)	<u>Schedule cleaning times or start cleaning from anywhere</u> via your smartphone. (Ex. 19.)
<b>Recharge / Resume</b>	<u>Automatically recharges, as needed, and then continues cleaning - until the job is done.</u> (Ex. 16.)	<u>Recharges when needed and picks up where it left off.</u> (Ex. 4.)
	<u>Knows where it’s been and what’s left to clean.</u> (Ex. 14.)	<u>Knows where it’s been, where to go, and where to resume.</u> (Ex. 19.)
<b>Self-Empty</b>	<u>Forget about vacuuming for weeks.</u> (Ex. 14.)	<u>Forget about vacuuming for up to a month.</u> (Ex. 3.)
	<u>Automatically empties the bin into a disposable bag that holds 30 bins of dirt, dust and hair.</u> (Ex. 17.)	Your robot <u>empties automatically</u> after every cleaning session into a bagless base that <u>holds up to 30 days’ worth of dust and debris.</u> (Ex. 3.)

(Lichtenheim Decl. ¶ 20.) Not only does Shark use iRobot’s words to describe the features relating to “selected cleaning,” “recharge/resume,” and “self-empty,” but Shark also mimics iRobot’s graphics:

iRobot’s Marketing Graphics (Ex. 14.)	Shark’s Marketing Graphics
	 <p style="text-align: right;">(Ex. 3.)</p>
 <p>Shows your kitchen from your living room</p>	 <p style="text-align: right;">(Ex. 3.)</p>
	 <p style="text-align: right;">(Ex. 20.)</p>

(See also Lichtenheim Decl. ¶ 21.) Shark even mimics iRobot’s tagline:

<p style="text-align: center; font-size: small;">SPONSORED BY IROBOT</p> <p style="font-size: 2em; color: green; font-weight: bold;">iRobot</p> <p style="font-size: small;">If it's not from iRobot, it's not a Roomba™</p>	<p style="font-size: x-small;">IF IT'S NOT A</p> <p style="font-size: 3em; font-weight: bold;">Shark</p> <p style="font-size: small;">IT'S JUST A ROBOT</p>
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Shark’s marketing of the selected cleaning, recharge/resume, and self-empty features demonstrates its awareness that those iRobot-patented features drive sales of the product and impact consumer decisions to purchase an RVC. (See Ex. 21; Lichtenheim Decl. ¶ 25.) Indeed, many of Shark’s early reviewers routinely comment on those three patented features, further confirming the nexus between iRobot’s loss of customers and Shark’s infringement:

- “The mapping is genius...It will pick up right where it left off...” (Ex. 25.)
- “It can be controlled from anywhere. So while I’m sitting in the living room, watching TV, knowing the bedroom needs vacuuming, it will do it for me.” (Ex. 23.)
- “The best part of all, it sucks the debris picked up by the shark during its clean and empties itself! Simply amazing!” (Ex. 24.)
- “I love that when it’s battery gets low it knows to go back to it’s [sic] dock to charge, it also knows where it left off and continues to vacuum there;” (Ex. 3 at 95.)
- “I love that it vacuums and go[es] back to its charging station and automatically empties all the dust in its reservoir which does not have to be emptied for 30 days..” (Ex. 3 at 79.)
- “The app has great features; setting a time when you want her to clean, clean the whole house or just certain rooms...” (Ex. 3 at 70.)

Shark’s infringing use of iRobot’s technology to compete against iRobot, even going to the extent of using iRobot’s own marketing strategies against it, will inflict irreparable harm on iRobot. “Where two companies are in competition against one another, the patentee suffers the harm—often irreparable—of being forced to compete against products that incorporate and infringe its own patented inventions.” *Douglas Dynamics, LLC v. Buyers Prods. Co.*, 717 F.3d 1336, 1345 (Fed. Cir. 2013) (finding irreparable harm and reversing denial of preliminary injunction); see also *Advanced Transit Dynamics, Inc. v. Ridge Corp.*, Case No. CV 15-1877 BRO (MANx), 2015 WL 12516692, at \*28 (C.D. Cal. Aug. 24, 2015) (granting preliminary injunction

and reasoning that “[plaintiff] has clearly shown loss of customers and market position and has shown some evidence indicating price erosion as a result of [defendant’s] alleged infringement.”).

**2. The Shark IQ Robot Has Already Caused Price Erosion That Will Irreparably Harm iRobot If Not Enjoined**

Shark’s goal is to undercut iRobot’s price—Shark itself proclaims the Shark IQ Robot with Self Empty is “half the price of iRobot i7+.” (Ex. 2.) As shown in the following tables, Shark undercut iRobot’s pricing by approximately 56-68% for products with the same assortment of patented features: selected cleaning, recharge/resume, and self-empty. We are only weeks into the launch of Shark’s IQ Robot, and iRobot already had to cut its prices for the Roomba® i Series—on the order of 10-15%. Shark still undercuts iRobot significantly, [REDACTED]

[REDACTED] (Lichtenheim Decl. ¶ 28.)

**iRobot Products with Selected Cleaning and Recharge/Resume, and Shark Products Claiming the Same**

<b>iRobot</b>	<b>Shark</b>	<b>Shark’s Price Undercutting</b>
<u>Roomba® i7</u> Originally: \$799.00 Cut price to: \$699.99	<u>Shark IQ Robot</u> \$349.40	<u>Roomba® i7</u> Shark undercut by 56.2% iRobot already discounted 12.5%
<u>Roomba® s9</u> Price: \$1,099.99		<u>Roomba® s9</u> Shark undercut by 68.2%

**iRobot Products with Selected Cleaning, Recharge/Resume, and Self-Empty, and Shark Products Claiming the Same**

<b>iRobot</b>	<b>Shark</b>	<b>Shark’s Price Undercutting</b>
<u>Roomba® i7+</u> Originally: \$1099.99 Cut price to: \$999.99	<u>Shark IQ Robot with Self-Empty</u> \$449.40	<u>Roomba® i7+</u> Shark undercut by 59.2% iRobot already discounted 9%
<u>Roomba® s9+</u> Price: \$1,399.99		<u>Roomba® s9+</u> Shark undercut by 67.8%

These price cuts are not limited to the premium Roomba® i7 and s9 products but cascade throughout the iRobot product line. (Lichtenheim Decl. ¶ 29.) This significant price erosion, caused by Shark’s infringement, demonstrates irreparable harm. (Ugone Decl. ¶¶ 54-56.) *Parah, LLC v. Mojack Distributions, LLC*, Case No. 18-1208-EFM-TJJ, 2018 WL 4006057, at \*9 (D. Kan.

Aug. 22, 2018) (finding irreparable harm based in part on price erosion when infringer undercut patentee by only 11%); *Curlin Med. Inc. v. Acta Med., LLC*, 228 F. Supp. 3d 355, 361-62 (D.N.J. 2017) (similar, when infringer undercut patentee by only 35%).

### **3. Shark's Infringement Will Irreparably Harm iRobot's Future Innovation**

iRobot's loss of revenue due to Shark's infringement will have a significant and irreparable second-order effect—forcing iRobot to reduce investment in R&D, the lifeblood of the company. (Saeger Decl. ¶¶ 11-16.) iRobot's business model and reputation depends on R&D investment and the resultant innovations, which iRobot can then incorporate into its premium technology products. (*Id.*; see also Ugone Decl. ¶ 57-59.) iRobot reinvests approximately 12-13% of its revenue into R&D (roughly \$140 million annually). (Ex. 22 at 91/172.); Saeger Decl. ¶ 13.) Even a 10% revenue decrement would decrease the R&D budget by at least \$12 million, causing irreparable negative impact on iRobot's business and future innovation. (*Id.*) Mr. Saeger, iRobot's head of R&D, explains the impact in detail, including [REDACTED]

[REDACTED]

[REDACTED] (*Id.*) Thus, Shark's infringement of iRobot's patents would irreparably harm iRobot's ability to generate competitive technologies. *Vanda Pharms. Inc. v. Roxane Labs., Inc.*, 203 F. Supp. 3d 412, 436 (D. Del. 2016) (decreased investment in R&D for future products constitutes irreparable harm, and granting a permanent injunction), *aff'd*, 887 F.3d 1117 (Fed. Cir. 2018).

### **4. Shark's Infringing IQ Robot Prematurely and Unfairly Eliminated iRobot's Technological Lead-Time**

Since iRobot launched the Roomba® i7+ in the Fall of 2018, iRobot has been the sole manufacturer offering an RVC with selected cleaning, recharge/resume, and self-empty features.

Shark's launch of its copycat IQ Robot three weeks ago took away that well-deserved advantage. Being technologically far ahead of the competition has significant value to iRobot (Lichtenheim Decl. ¶ 30), and "[m]oney damages alone cannot restore the technological lead-time that [iRobot] would ... enjoy[ ] but for the infringement" of Shark. *EyeTicket Corp. v. Unisys Corp.*, 155 F. Supp. 2d 527, 548 (E.D. Va. 2001) (granting preliminary injunction). Indeed, iRobot's innovative products and features earned noteworthy industry accolades. TIME Magazine awarded the Roomba® i7+ its 2018 Invention of the Year award, and specifically praised it as "a vacuum that empties itself." (Ex. 1) The Roomba® i7+ also achieved the "Editor's Choice" award from PC Magazine for "its truly autonomous cleaning capabilities." (Ex. 26, at 3.) It is no surprise that iRobot's technological advances dramatically boost sales, and in 2018 the i7 made over 60 holiday gift guides. (Lichtenheim Decl. ¶ 14.) Shark's infringement, however, will eliminate iRobot's hard-earned technological lead, and therefore warrants an immediate injunction.

#### **5. Shark's IQ Robot Will Cause Irreparable Reputational Harm**

The Shark IQ Robot also will cause irreparable harm to iRobot's reputation. iRobot is regarded as the pioneer behind many advancements in robotic home vacuuming, and is heralded for its quality products. (Saeger Decl. ¶ 13; Lichtenheim Decl. ¶¶ 30-31.) But if customers find iRobot's "'innovations' appearing in competitors' [products]," its "reputation as an innovator will certainly be damaged." *Douglas Dynamics*, 717 F.3d at 1344-45; *Apple Inc. v. Samsung Elecs. Co.*, 809 F.3d 633, 639 (Fed. Cir. 2015) (vacating denial of permanent injunction and reasoning that "damage to ... reputation as an innovator, lost market share, and lost downstream sales" were irreparable harm). Indeed, iRobot has found that its reputation for innovative and quality products, and its brand overall, are some of the most influential factors in consumers' RVC purchasing decisions. (Lichtenheim Decl. ¶¶ 30-31; Saeger Decl. ¶ 13.) Allowing Shark to not only steal iRobot's sales, but also diminish its reputation as an innovator by violating its patents, is



### C. The Balance of Hardships Favors Enjoining Shark's Infringement

The balance of hardships strongly favors enjoining Shark. Without a preliminary injunction, iRobot would be forced “to compete against its own patented invention,” and suffer enormous disruption and losses to iRobot’s premier product in its main product line. *Robert Bosch LLC v. Pylon Mfg. Corp.*, 659 F.3d 1142, 1156-57 (Fed. Cir. 2011) (reversing denial of permanent injunction). In fact, iRobot’s Roomba® products account for ██████████ of iRobot’s total revenue. (Lichtenheim Decl. ¶ 28.) See *Mentor Graphics Corp. v. Quickturn Design Sys., Inc.*, 999 F. Supp. 1388, 1394 (D. Or. 1997) (a company with one product “would suffer great economic and market share losses which could be very difficult to calculate and cure by a simple payment” if patent infringement is found), *aff’d*, 150 F.3d 1374 (Fed. Cir. 1998).

In contrast, a preliminary injunction would merely revert to what was and should be the status quo for Shark—who until three weeks ago sold the Shark ION as its sole RVC, which Shark could continue to sell since that product is not accused in this lawsuit. Furthermore, RVCs are a very small part of Defendants’ product portfolio. Defendant SharkNinja Operating, LLC touts that it is a leader in the “housewares industry” and “offers more than 150 products” that generate annual revenue of around \$1.6 billion, and Shark’s RVCs accounted for less than \$100 million (or around 6%) of SharkNinja’s total revenue. (Ex. 7 at 3; Ex. 28; Ex. 30.) In addition, any harm Shark may allege would be “the result of its own calculated risk” to bring the Shark IQ Robot to market “with knowledge of [iRobot’s] patent[s].” *Celsis In Vitro v. CellDirect, Inc.*, 664 F.3d 922, 931 (Fed. Cir. 2012); see also *Everett Labs, Inc. v. Breckenridge Pharm., Inc.*, 573 F. Supp. 2d 855, 870 (D.N.J. 2008) (“Furthermore any harms that [defendant] may face due to the sale of its unlicensed drug are attributable to its own at-risk conduct”). (See Ugone Decl. ¶¶ 80-81.)



#### **D. The Public Interest Would Be Served by Enjoining Shark**

A preliminary injunction would serve the public interest by preserving the status quo, while also protecting iRobot's patent rights. Courts "have long acknowledged the importance of the patent system in encouraging innovation." *Sanofi-Synthelabo v. Apotex, Inc.*, 470 F.3d 1368, 1383 (Fed. Cir. 2016). In particular, investment "must be encouraged and protected by the exclusionary rights conveyed in valid patents," because otherwise the "incentive would be adversely affected by taking market benefits away from the patentee and giving them to the accused infringer." *Celsis*, 644 F.2d at 931-32. This would be especially unjust in the RVC market, which is, after all, "a market that [iRobot] has in part created with its investment in patented technology." *Douglas Dynamics*, 717 F.3d at 1345. (See Ugone Decl. ¶¶ 83-87.)

Allowing Shark to continue its infringement would be flatly contrary to the public interest. (Ugone Decl. ¶ 83.) By copying iRobot's intellectual property, Shark purports to compete with iRobot's innovative features without actually investing to develop the innovative technology on its own. The public interest is served by restraining such strategies. *Douglas Dynamics*, 717 F.3d at 1345-46 ("Moreover this new 'competitor' will often find it easier to avoid the costs and risks of research and development and just 'compete' by infringement.")

Finally, customers who wish to obtain these technologically-advanced RVCs could still obtain equivalent, if not superior, features from iRobot, while customers unwilling to pay for the research and development that went into those features could still obtain lower-priced, non-accused RVCs from Shark and other companies. *Celsis*, 644 F.3d at 932. (See Ugone Decl. ¶¶ 91-93.)

#### **IV. CONCLUSION**

For these reasons, the Court should grant Plaintiff's Motion for a Preliminary Injunction.

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Respectfully submitted,

*/s/ T. Christopher Donnelly*

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**CERTIFICATE OF SERVICE**

I hereby certify that this document filed through the ECF system will be served on Shark pursuant to Fed. R. Civ. P. and L.R. 5.2 along with a copy of the Complaint in this case.

*/s/ T. Christopher Donnelly*

T. Christopher Donnelly