IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF TEXAS

IOT INNOVATIONS LLC,

Plaintiff,

v.

TP-LINK CORPORATION PTE. LIMITED (f/k/a BIG FIELD GLOBAL PTE. LIMITED), ET AL., *Defendants*.

Civil Action No. 2:24-cv-00219

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff IoT Innovations LLC (hereinafter, "<u>IoT Innovations</u>" or "<u>Plaintiff</u>") files this Complaint for Patent Infringement against TP-Link Corporation PTE. Limited (upon information and belief, f/k/a Big Field Global Pte. Limited), Big Field International Limited, TP-Link Lianzhou Co., Ltd. (f/k/a TP-Link Technologies Co., Ltd.), and TP-Link Corporation Ltd. (upon information and belief, f/k/a TP-Link International Ltd.) (collectively, hereinafter, "<u>TP-Link</u>" or "<u>Defendants</u>") alleging, based on its own knowledge as to itself and its own actions, and based on information and belief as to all other matters, as follows:

NATURE OF THE ACTION

1. This is a patent infringement action to stop Defendants infringement of the following United States Patents (collectively, the "Asserted Patents") issued by the United States Patent and Trademark Office ("USPTO"):

	U.S. Patent	Title	Available At
	No.		
1.	6,801,933	System And Method For Proactive	USTPO.GOV, https://image-
		Caching Employing Graphical	ppubs.uspto.gov/dirsearch-
		Usage Description	<pre>public/print/downloadPdf/6801</pre>
			<u>933</u>

	U.S. Patent No.	Title	Available At
2.	7,165,224	Image Browsing And Downloading In Mobile Networks	USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-
		In Moone (Vetworks	public/print/downloadPdf/7165
3.	7,246,173	Method And Apparatus For Classifying IP Data	USTPO.GOV, https://image- ppubs.uspto.gov/dirsearch-
		January Banana	public/print/downloadPdf/7246
4.	7,394,798	Push-To Talk Over Ad-Hoc	USTPO.GOV, https://image-
		Networks	ppubs.uspto.gov/dirsearch- public/print/downloadPdf/7394
			798
5.	7,526,762	Network With Mobile Terminals As	USTPO.GOV, https://image-
		Browsers Having Wireless Access	ppubs.uspto.gov/dirsearch-
		To The Internet And Method For	<pre>public/print/downloadPdf/7526</pre>
		Using Same	<u>762</u>
6.	7,983,282	Edge Side Assembler	USTPO.GOV, https://image-
			ppubs.uspto.gov/dirsearch-
			public/print/downloadPdf/7983
	2211101		282
7.	RE44191	Electric Device, Computer,	USTPO.GOV,

2. IoT Innovations seeks injunctive relief and monetary damages.

PARTIES

- 3. IoT Innovations is a limited liability company formed under the laws of Texas with a registered office address located in Austin, Texas (Travis County).
- 4. On information and belief, TP-Link Corporation PTE. Limited (upon information and belief, f/k/a Big Field Global Pte. Limited) ("<u>TPC PTE</u>") is a privately held company organized under the laws of the Republic of Singapore, with its principal place of business at 7 Temasek Boulevard #29-03 Suntec Tower One, Singapore 038987. *See Declaration of Authorization*, FCCID.IO, https://fcc.report/FCC-ID/2BCGWC220/6864783 (last visited March 28, 2024). On information and belief, defendant TPC PTE is a subsidiary of both Ivy Grove Ltd. ("Ivy Grove")

and Diamond Creek Global Ltd. ("Diamond Creek"), which are related entities. *See IoT Innovs*. *LLC v. TP-Link Lianzhou Co. Ltd.*, *et al.*, 2:23-cv-00453-JRG-RSP, Dkt. No. 9 at ¶2 (February 12, 2024) ("TP-Link Disclosures").

- 5. On information and belief, Big Field International Limited ("**BFI LTD**") is a multinational private limited company organized under the laws of Hong Kong with its principal place of business in Hong Kong. On information and belief, defendant BFI LTD is a subsidiary of Ivy Grove and Diamond Creek.
- 6. On information and belief, TP-Link Corporation Ltd. (upon information and belief, f/k/a TP-Link International Ltd.) ("<u>TP-Link Corporation</u>") is a private limited company organized under the laws of Hong Kong with its principal place of business at Suite 901, New East Ocean Centre, Tsim Sha Tsui, Hong Kong, China. On information and belief, defendant TP-Link Corporation is a subsidiary of TPC PTE (f/k/a Big Field Global PTE, Ltd.). *See* TP-Link Disclosures at ¶2.
- 7. On information and belief, TP-Link Lianzhou Co., Ltd. (upon information and belief, f/k/a TP-Link Technologies Co., Ltd.) ("<u>TP-Link Technologies</u>") is a multi-national private limited company organized under the laws of the People's Republic of China ("PRC" or "China") with its principal place of business at South Building 5 Keyuan Road, Central Zone Science & Technology Park, Nanshan, Shenzhen, PRC, 518057.
- 8. On information and belief, Diamond Creek, Ivy Grove, TPC PTE, BFI LTD, TP-Link Corporation, and TP-Link Technologies are related entities.
- 9. TPC PTE, BFI LTD, TP-Link Corporation, and TP-Link Technologies are referred to collectively as "**Defendants**," and on information and belief, have acted in concert with respect to the facts alleged herein such that any act of one is attributable to any and all of the others and vice

versa.

JURISDICTION AND VENUE

- 10. IoT Innovations repeats and re-alleges the allegations in Paragraphs above as though fully set forth in their entirety.
- 11. This is an action for infringement of a United States patent arising under 35 U.S.C. §§ 271, 281, and 284–85, among others. This Court has subject matter jurisdiction of the action under 28 U.S.C. § 1331 and § 1338(a).
- 12. Venue is proper in this District pursuant to 28 U.S.C. § 1391 because, among other things, Defendants are not residents of the United States, and thus may be sued in any judicial district, including this one, pursuant to 28 U.S.C. § 1391(c)(3). *See also In re HTC Corporation*, 889 F.3d 1349, 1357 (Fed. Cir. 2018) ("The Court's recent decision in TC Heartland does not alter" the alien-venue rule.).
- 13. Defendants are subject to this Court's specific and general personal jurisdiction under due process because of Defendants' substantial business in this District, in the State of Texas, and in the United States, including: (i) at least a portion of the infringements alleged herein; and (ii) regularly doing or soliciting business, engaging in other persistent courses of conduct, or deriving substantial revenue from goods and services provided to individuals in this state, in this District, and in the United States.
- 14. Specifically, Defendants intend to do and do business in, have committed acts of infringement in, and continue to commit acts of infringement in this District, in the State of Texas, and in the United States, directly, through intermediaries, by contributing to and through inducement of third parties, and offers their products or services, including those accused of infringement here, to customers and potential customers located in this state, including in this

District, and in the United States.

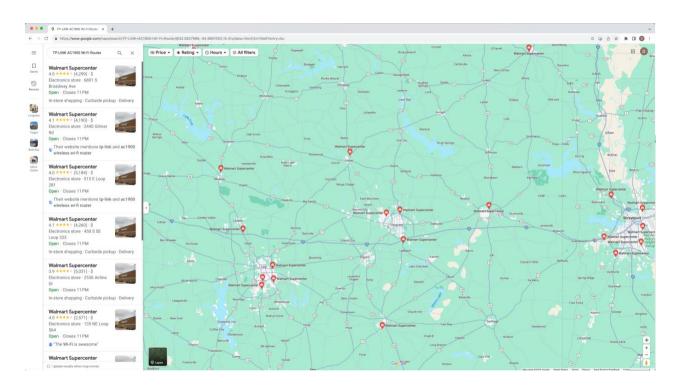
- 15. Defendants have purposefully directed infringing activities at residents of the State of Texas, and this litigation results from those infringing activities. Defendants regularly sell (either directly or indirectly), their products within this District. For example, Defendants have placed and continue to place the products accused of infringement in this case (hereinafter, the "Accused Products" and defined further in Paragraphs 37-42 below) into the stream of commerce via an established distribution channel with the knowledge or understanding that such products are being and will continue to be sold in this District and the State of Texas. Defendants are subject to this Court's specific and/or general personal jurisdiction pursuant to due process and/or the Texas Long Arm Statute, due to their substantial and pervasive business in this State and District, including their infringing activities alleged herein, from which Defendants derive substantial revenue from goods sold to Texas residents and consumers.
- 16. Defendants offer products and services and conduct business in this District as described below.
- 17. Defendants further ship and cause to be shipped, into the District, infringing products and/or materials and information instructing others to perform infringing activities, including without limitation customers, employees, exclusive and non-exclusive contractors, agents, and affiliates for installation, operation, and service at locations within this District.
- 18. Defendants commit acts of infringement from this District, including, but not limited to, use of the Accused Products and inducement of third parties to use the Accused Products in an infringing manner.
- 19. TP-Link USA Corporation is an agent of the Defendants and a California corporation with a mailing address at 10 Mauchly, Irvine, CA 92618.

- 20. Through direction and control of these various entities, Defedants have committed acts of direct and/or indirect patent infringement within Texas, and elsewhere within the United States, giving rise to this action and/or has established minimum contacts with Texas such that personal jurisdiction over Defendants would not offend traditional notions of fair play and substantial justice.
- 21. Defendants directly, and *via* direction and control of or by their related entities, participate in the manufacture, shipping, importing and distribution of the Accused Products to the U.S.
- 22. Upon information and belief, Defendants control or otherwise direct and authorize all activities of their subsidiaries and related entities, including, but not limited to U.S.-based TP-Link USA. Directly via agents in the U.S. and via at least distribution partners, retailers (including national retailers), reseller partners, solution partners, brand ambassadors, and other service providers, Defendants have placed and continue to place infringing TP-Link Products into the U.S. stream of commerce. For example, import records show that Defendants deliver TP-Link Products to TP-Link USA in the U.S. See, e.g., Supply Chain Intelligence, PANJIVA, Tp Link Technologies Co., Ltd., https://www.importinfo.com/tp-link-technologies-co-ltd-on (showing at least two shipments from TP-Link Technologies Co., Ltd. to "TP Link USA Corporation" in January of 2021 consisting of, for example, "Kasa smart bulb" and other networking products); https://panjiva.com/Tp-Link-Technologies-Co-Ltd/27804596 (same); Shipments, IMPORT GENIUS, TP-Link USA Corporation, https://www.importgenius.com/importers/tp-link-usa-corporation (showing at least two shipments from "TP-Link Lianzhou Company Limited" to "TP Link USA Corporation" in March and February of 2024, consisting of, for example, "Tapo Smart Hub" and other smart home products).

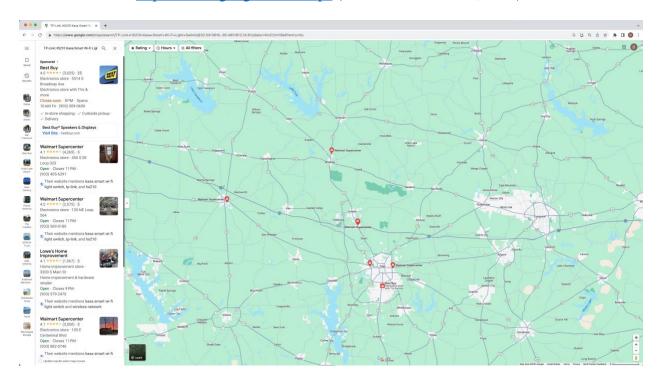
- 23. Upon information and belief, Defendants directly, and via direction and control of or by their related entities, participate in the manufacture, shipping, importing and distribution of Accused Products to the U.S. For example, on the website www.tp-link.com Defendants advertise that "Big Field Global PTE. Ltd. . . . has successfully completed the global acquisition of several TP-Link-affiliated companies," stating that this "transaction unites under one roof some of the world's top brands in networking and smart home products, including TP-Link®, Kasa®, Tapo®, TP-Link Omada®, AginetTM, and VIGI®." BFG Group Announcement, TP-Link, https://www.tplink.com/hk/press/news/20780/ (September 19, 2023) (last visited March 28, 2024). Defendants further advertise that Big Field Global PTE. Ltd. has commissioned LIANYUE (VIETNAM) Company Limited in Vietnam ("LIANYUE") to handle all product manufacturing" for "TP-Link®, Kasa®, Tapo®, TP-Link Omada®, AginetTM, and VIGI®" networking and smart home products brands. Id. In addition, for example, import records show that Defendants, directly and via direction and control of related entites, deliver TP-Link products to TP-Link USA in the U.S. See, e.g., IMPORTGENIUS.COM, https://www.importgenius.com/suppliers/lianyue-vietnamcompany-limited (last visited March 28, 2024) (showing shipments of smart WiFi products from Lianyue (Vietnam) Company Limited to TP-Link USA Corporation); TRADEMO.COM, https://www.trademo.com/companies/lianyue-vietnam-company-limited/19833727 (last visited March 28, 2024) (listing "TP-Link Liazhou Co. Ltd." and "TP-Link Corporation Ltd." as top suppliers and "TP-Link USA Corporation" and "TP-Link Corporation Ltd." as top buyers of LIANYUE).
- 24. Defendants have placed such products into the stream of commerce with the knowledge and understanding that such products are, will be, and continue to be sold, offered for sale, and/or imported into this judicial district and the State of Texas. *See Litecubes, LLC v.*

Northern Light Products, Inc., 523 F.3d 1353, 1369-70 (Fed. Cir. 2008) ("[T]he sale [for purposes of § 271] occurred at the location of the buyer."); see also Semcon IP Inc. v. Kyocera Corporation, No. 2:18-cv-00197-JRG, 2019 WL 1979930, at *3 (E.D. Tex. May 3, 2019) (denying accused infringer's motion to dismiss because plaintiff sufficiently plead that purchases of infringing products outside of the United States for importation into and sales to end users in the U.S. may constitute an offer to sell under § 271(a)).

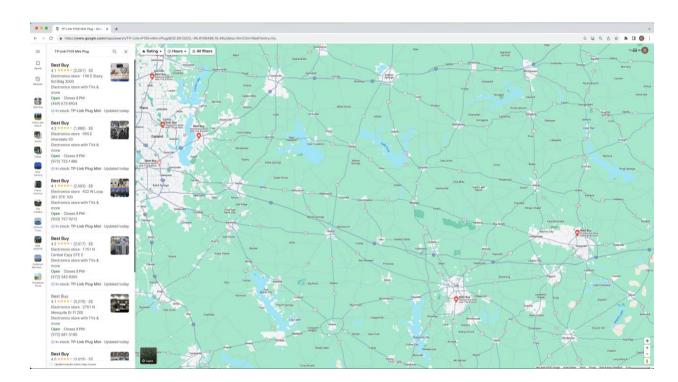
25. Defendants utilize established distribution channels to distribute, market, offer for sale, sell, service, and warrant infringing products directly to consumers and other users in the U.S., including providing links via their website to online stores, retailers, resellers, distributors, and solution partners offering such products and related services for sale. *See Where to Buy*, TP-LINK, https://www.tp-link.com/us/where-to-buy/ (last visited March 28, 2024). Such Accused Products have been sold in retail stores, both brick-and-mortar and online, within this District and in Texas, including well-known and widely used retailers, such as Amazon.com, Target, Office Depot, Office Max, Walmart, Sam's Club, BestBuy, Sears, QVC, Micro Center, Costco, and Lowe's. For example, certain of the Accused Products are available for purchase at various retail stores in this District, including the Walmart Supercenter store locations in Marshall, Longview, and Tyler (*see FIGs.* 1–3):



<u>FIG.1</u>: Google Maps search of locations with AC1900 Wi-Fi Router, GOOGLE MAPS, <u>https://www.google.com/maps</u> (last visited March 28, 2024).

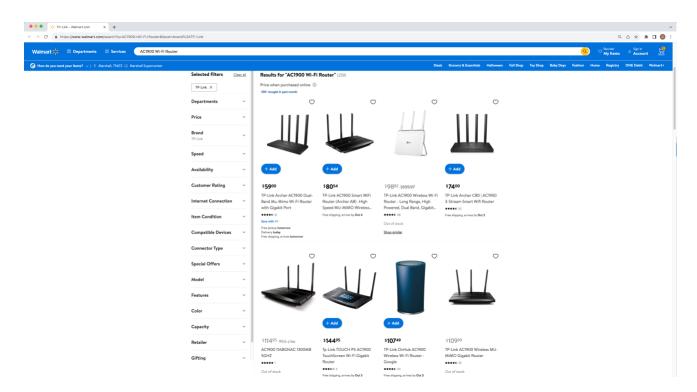


<u>FIG. 2</u>: Google Maps search of locations with TP-Link HS210 Kasa Smart Wi-Fi Light Switch, GOOGLE MAPS, https://www.google.com/maps (last visited March 28, 2024).

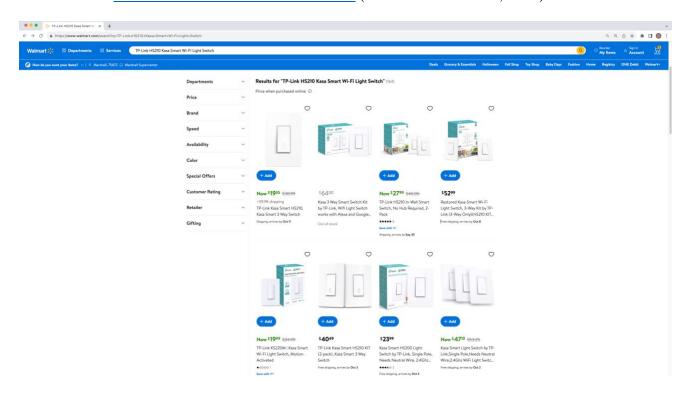


<u>FIG. 3</u>: Google Maps search of locations with TP-Link P105 Mini Plug, GOOGLE MAPS, https://www.google.com/maps (last visited March 28, 2024).

26. Walmart sells many Accused Products, including the AC1900 Wi-Fi Router, TP-Link TOUCH P5 AC1900 TouchScreen Wi-Fi Gigabit Router, and the TP-Link Archer C80Q | AC1900 3-Stream Smart Wi-Fi Router; and the TP-Link HS210 Kasa Smart Wi-Fi Light Switch and HS200 Kasa Smart Wi-Fi Light Switch, at its store in Marshall (*see* <u>FIG. 4–5</u>):

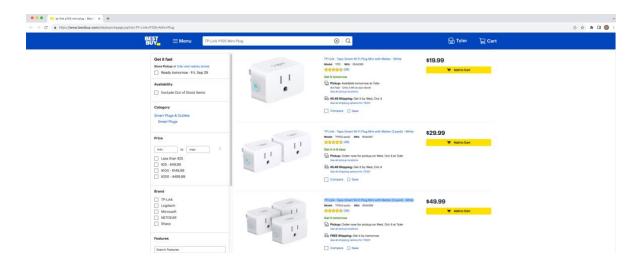


<u>FIG. 4</u>: WALMART, <u>https://www.walmart.com/search?q=AC1900+Wi-Fi+Router&facet=brand%3ATP-Link</u> (last visited March 28, 2024).



<u>FIG. 5</u>: WALMART, <u>https://www.walmart.com/search?q=TP-Link+HS210+Kasa+Smart+Wi-Fi+Light+Switch</u> (last visited March 28, 2024).

27. Best Buy sells many Accused Products, including the TP-Link Tapo Smart Wi-Fi Mini Plug, at its store in Tyler (*see* FIG. 6):



<u>FIG. 6</u>: BEST BUY, https://www.bestbuy.com/site/searchpage.jsp?st=TP-Link+P105+Mini+Plug (last visited March 28, 2024).

- 28. Based on Defendants' connections and relationships with these national retailers and digital distribution platforms, Defendants know that Texas is a termination point of their established distribution channels, including the online and brick and mortar stores offering Accused Products to users in Texas. Defendants, therefore, have purposefully directed their activities at Texas, and should reasonably anticipate being brought in this Court, at least on this basis. *See Icon Health & Fitness, Inc. v. Horizon Fitness, Inc.*, 2009 WL 1025467, at (E.D. Tex. 2009) ("[a]s a result of contracting to manufacture products for sale in" national retailers' stores, the defendant "could have expected that it could be brought into court in the states where [the national retailers] are located").
- 29. Such a presence furthers the development, design, manufacture, importation, distribution, sale, and use (including by inducement) of Accused Products in Texas, including in this District. *See, e.g., AUT Report*, FCCID.IO, https://fcc.report/FCC-ID/2BCGWC220/6864777

(providing a copy of the Tapo C220 AUT Report, naming Big Field Global PTE Ltd. [now, upon information and belief, TPC PTE] as the manufacturer); External Photo, FCCID.IO, https://fccid.io/TE7SR20/External-Photos/External-Photos-3187339.pdf (providing a copy of the labels for TP-Link model no. AC1900 TP-Link Smart Home Router with Touch Screen SR20); Label Location, FCCID.IO, https://fccid.io/TE7HS210V3/Label/HS210-label-and-location-4887177.pdf (providing a copy of the label for TP-Link model no. HS210 Kasa Smart Wi-Fi Light Switch, 3-Way); Label Location, FCCID.IO, https://fccid.io/TE7HS200V5/Label/HS200-labeland-location-4888665.pdf (providing a copy of the label for TP-Link model no. HS200 Kasa Smart Wi-Fi FCCID.IO, Light Switch, Singe Pole); also Label Location, see https://fccid.io/2AXJ4H100/Label/4-Label-and-location-5394498.pdf (providing a copy of the label for TP-Link model no. Tapo H100 Tapo Smart IoT HUB); Label Location, FCCID.IO, https://fccid.io/2AXJ4P105/Label/4-Label-and-location-6060817.pdf (providing a copy of the label for TP-Link model no. P105 Tapo Mini Smart Wi-Fi Plug); Label Location, FCCID.IO, https://fccid.io/2AXJ4T100/Label/4-Label-and-location-5806914.pdf (providing a copy of the label for TP-Link model no. T100 Tapo Smart Motion Sensor); See Choose Your Location, TP-LINK, https://www.tp-link.com/us/choose-your-location/ (last visited March 28, 2024).

30. For example, upon information and belief, TP-Link Corporation is the applicant for FCC registrations for the sale and use of Accused Products in the U.S., including being identified on labels as the manufacturing party. See Label Location, FCCID.IO, https://fccid.io/2AXJ4C720/Label/13-Label-and-location-6270201 (providing a copy of the label for TP-Link model no. C720 Tapo Smart Floodlight Camera Label Diagram); Label Location, FCCID.IO, https://fccid.io/2AXJ4T315/Label/Label-and-Label-location-6344372 (providing a copy of the label for TP-Link model no. T315 Tapo Smart Temperature & Humidity Monitor);

Label Location, FCCID.IO, https://fccid.io/2AXJ4H100/Label/and-location/2AXJ4H100/Label/4-Label-and-location-5394498 (providing a copy of the label for TP-Link model no. Tapo H100 Tapo Smart IoT HUB); https://fccid.io/2AXJ4P105/Label/4-Label-and-location-6060817 (providing a copy of the label for TP-Link model no. P105 Tapo Mini Smart Wi-Fi Plug); https://fccid.io/2AXJ4D230/Label/Label-and-Label-location-6440238.pdf (providing a copy of the label for TP-Link model no. Tapo Video Doorbell Camera); https://fccid.io/2AXJ4D100C/Label/label-and-label-location-6491367 (providing a copy of the label for TP-Link model no. Tapo Doorbell Chime).

- 31. In addition, upon information and belief, TP-Link Lianzhou Co., Ltd. (f/k/a TP-Link Technologies Co., Ltd.), is or was also an applicant for FCC registrations for the sale and use of TP-Link products in the U.S., including being identified on labels as the manufacturing party. *See, e.g., Label and Location*, FCCID.IO, available at https://fccid.io/TE7AX20V2/Label/4-Label-and-location-5053340 (providing a copy of the label for TP-Link Technologies AX1800 Dual-Band Wi-Fi 6 Router).
- 32. As an additional example, upon information and belief, TPC PTE (f/k/a Big Field Global PTE) is also the applicant for FCC registrations for the sale and use of Accused Products in the U.S., including being identified as the manufacturing party. *See* Big Field Global PTE. Ltd. C220, FCCID.IO, https://fcc.report/FCC-ID/2BCGWC220; *see also AUT Report*, FCCID.IO, https://fcc.report/FCC-ID/2BCGWC220/6864777 (providing a copy of the Tapo C220 AUT Report, naming Big Field Global PTE. Ltd. [now, upon information and belief, TPC PTE] as the manufacturer).

- 33. As a part of Defendants' global manufacturing and distribution network, Defendants also purposefully place infringing Accused Products in established distribution channels in the stream of commerce, including in Texas, *via* distribution partners, retailers (including national retailers), reseller partners, solution partners, brand ambassadors, service providers, consumers, and other users. For example, Defendants provide tp-link.com, which directs users to purchase in the infringing products. *See TP-Link Privacy Policy*, TP-LINK, https://www.tp-link.com/us/about-us/privacy/ (indicating TP-Link Corporation Ltd. provides TP-Link branded hardware, firmware, and software and the TP-Link website); *see e.g., Smart Plugs*, TP-LINK, https://www.tp-link.com/us/home-networking/smart-plug/tapo-p105/ (directing users to "Buy Now") (last visited March 28, 2024); *Smart Sensors*, TP-LINK, https://www.tp-link.com/us/smart-home/smart-sensor/tapo-t315/ (directing users to "Buy Now"); *Smart Hub*, TP-LINK, https://www.tp-link.com/us/smart-home/smart-home/smart-hub/tapo-h100/">https://www.tp-link.com/us/smart-home/smart-hub/tapo-h100/ (last visited March 28, 2024).
- 34. Defendants also recruit "TP-Link Brand Ambassadors" via a "Power User" program; these Brand Ambassadors are consumers and users of Accused Products that are recruited in the U.S. based on their social media presence and amount of use of Accused Products. *See TP-Link Brand Ambassador Program*, TP-LINK, https://www.tp-link.com/us/brandambassador/ (last visited March 28, 2024). These brand ambassadors (also known as "influencers") are compensated for promoting Accused Products on social media and participating in marketing campaigns to raise awareness of Accused Products and their respective brands, which, ultimately, increases sales.
- 35. Defendants also provide application software ("apps"), such as the "TP-Link Tapo," "TP-Link Kasa Smart," "TP-Link tpCamera," "tpPLC," "tpMiFi," and "Wi-Fi Toolkit" apps for download and use in conjunction with and as a part of the wireless communication network that connects the Accused Products and other network devices. *See, e.g.*, GOOGLE PLAY STORE,

https://play.google.com/store/search?q=tp-link+corporation+limited&c=apps (last visited March 28, 2024) (offering the apps, including TP-Link apps, for download and indicating that the "TP-Link applications are offered by Global Inc."); GOOGLE **PLAY** STORE, https://play.google.com/store/search?q=Kasa&c=apps (offering apps TP-Link and Kasa apps for download and indicating that the applications are offered by "TP-Link Global Inc."). These apps are available via digital distribution platforms for download by users and execution on smartphone devices. Id. Upon information and belief, Defendants, under the direction and control of, at least, BFG PTE, offer these apps as "TP-Link Global Inc." Id. For example, BPG PTE advertises that it "has commissioned TP-Link Global Inc., a California company, to manage global brand strategy and product marketing." BFGGroup Announcement, TP-LINK, https://www.tplink.com/hk/press/news/20780/ (September 19, 2023) (last visited March 28, 2024).

36. In the alternative, the Court has personal jurisdiction over Defendants under Federal Rule of Civil Procedure 4(k)(2), because the claims for patent infringement in this action arise under federal law; Defendants are not subject to the jurisdiction of the courts of general jurisdiction of any state; and exercising jurisdiction over Defendants is consistent with the U.S. Constitution.

THE ACCUSED PRODUCTS

- 37. IoT Innovations repeats and re-alleges the allegations in Paragraphs above as though fully set forth in their entirety.
- 38. Based upon public information, Defendants own, operate, advertise, and/or control the website and domain www.tp-link.com, through which they advertise, sell, offer to sell, provide and/or educate customers about their products and services.
- 39. Defendants use, cause to be used, sell, offer for sale, provide, supply, or distribute their home security platform and systems, including but not limited to those products and services

marketed as:

- TP-Link Tapo and/or Kasa Smart IoT HUBs, including but not limited to the Tapo H100 and/or Tapo Smart Hub with Chime;
- TP-Link Tapo and/or Kasa Smart Wi-Fi Plugs, TP-Link Tapo and/or Kasa Smart Wi-Fi Lightbulbs, TP-Link Tapo Smart Sensors, TP-Link Tapo Smart Temperature & Humidity Monitors, TP-Link Tapo Robot Vacuums, TP-Link Tapo Smart Buttons, including but not limited to: KP125M, KP125, EP40A, EP40, EP25, KP405, EP10, HS103, KP401, HS300, KP303, KP400, KP200 KP115, HS105, HS100, KS225, KS205, KS220, KS200, ES20M, KS200M, KS230KIT, KS220M, HS200, HS220, HS210, HS200-BL, HS200-LA, KL135, Tapo P135KIT, Tapo P400M, Tapo P110, Tapo P125M, Tapo P105, Tapo P125, Tapo S505D, Tapo S505, Tapo S500, Tapo S500D, Tapo L530E, Tapo L930-10, Tapo L900-5, Tapo L920-5, Tapo L900-10, Tapo L900-20, Tapo L535E, Tapo L531E, Tapo L510E, Tapo L930-5, Tapo L920-10, Tapo T100, Tapo T310, Tapo T315; Tapo T300, Tapo RV30C Plus, Tapo RV20 Plus, Tapo RV10 Plus;
- TP-Link Tapo and/or Kasa Smart Home WiFi Cameras, including but not limited to: the Tapo Smart Home WiFi Camera, C200, C220, C210, TC70, Kasa Cam, KC120, KC200, KC100, KC401, KC410S;
- TP-Link Tapo and/or Kasa Smart Home Routers, including but not limited to: the SR20 Smart Home Router and AC1900 Wi-Fi Router + Touch Screen; Deco BE95, Deco XE75 Pro, Deco X55, Deco X50-Outdoor, Deco X50-PoE, Deco PX50, Archer TX3000E V2, Archer TXE75E, Archer T2E, Archer TXE72E, Archer TX55E, Archer T6E, Archer T5E, Archer T4U Plus, Archer T3U Plus, Archer T2UB Nano, Archer TX20U Plus, Archer TX21UH, Archer TX20E, Archer T9UH, T4U V2, Archer T4U, Archer T2U Nano, TL-

WN823N, Archer AX90, Archer AX55, Archer AX21 V4, Archer A8, Archer C7 V5, Archer AX10, Archer C80, Archer AX11000, Archer GX90, RE220, RE315, RE550, RE715X, RE815X, RE603X, RE615X, RE215, RE230, TL-WA3001;

- TP-Link Tapo App and TP-Link Kasa App; and
- TP-Link Server(s), TP-Link's encryption technologies and cellular and Wi-Fi capabilities, and their associated hardware and software and functionalities.

(the "Accused Products").1

- 40. Defendants also instruct their customers, agents, employees, and affiliates regarding how to use the Accused Products for infringing purposes, including for the smart home functionality provided by the same. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024); User Guide, TP-LINK, Smart Home Router (SR20) AC1900 Wi-Fi Router + Smart Home Hub + Touch Screen, https://static.tp-link.com/1910012101 SR20(EU)&(US) V1 UserGuide.pdf (last visited March 28, 2024).
- 41. The Accused Products are made outside the United States of America and then are imported intothe United States, distributed, and sold to end-users via the Internet and via distribution partners, retailers, reseller partners, and solution partners. *See Where to Buy*, TP-LINK, https://www.tp-link.com/us/where-to-buy/ (last visited March 28, 2024). Those sales occur in the United States, and throughout Texas, including in this District.
- 42. For these reasons and the additional reasons detailed below, the Accused Products practice at least one claim of each of the Asserted Patents.

¹ See infra List of Supporting Links at pages 56–59.

COUNT I: INFRINGEMENT OF U.S. PATENT NO. 6,801,933

- 43. Plaintiff repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 44. The USPTO duly issued U.S. Patent No. 6,801,933 (hereinafter, the "'933 patent") on October 5, 2004, after full and fair examination of Application No. 09/644,054 which was filed on August 23, 2000. *See* '933 patent at 1.
- 45. IoT Innovations owns all substantial rights, interest, and title in and to the '933 patent, including the sole and exclusive right to prosecute this action and enforce said patent against infringers and to collect damages for all relevant times.
- 46. The claims of the '933 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components and functionalities that improve tools for searching electronic information repositories and retrieving relevant results using queries and results built from natural language.
- 47. The written description of the '933 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 48. Defendants have directly infringed one or more claims of the '933 patent by making, using, selling, offering to sell, providing, supplying, or distributing the Accused Products.
- 49. Defendants have directly infringed, either literally or under the doctrine of equivalents, at least claim 7 of the '933 patent, as detailed in Attachment A to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit A**.

Accused Products, performs a method, comprising receiving a request for data; producing a current state based on the request; determining a next state based on the current state; caching data based on the current state and the next state; and associating the request with a user of an application having a plurality of states, wherein the user is located in one of the plurality of states. *See FIGs.*7–12; *see also Support*, TP-LINK, https://www.tp-link.com/us/support/faq/1957/; Support, TP-LINK, https://www.tp-link.com/us/support/faq/3564/; YOUTUBE, https://www.youtube.com/watch?v=TicTnn6EugO.



 $\label{eq:FIG.7:See Kasa Smart App User Guide (for Cameras), TP-Link, $$https://static.tp-link.com/upload/manual/2023/202306/20230605/1910013369_Kasa%20Smart%20App%20(Camera)_UG_V1-0602.pdf at p. 4.$

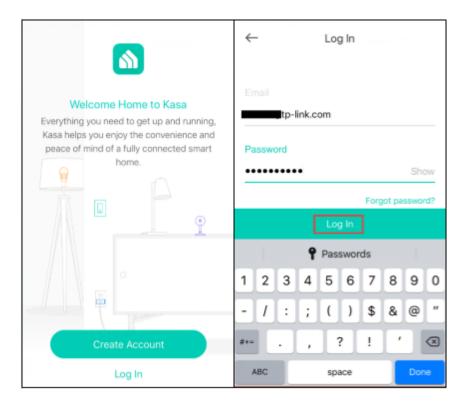


FIG. 8: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1957/.

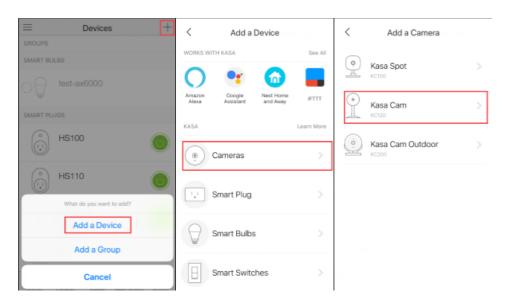


FIG. 9: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1957/.

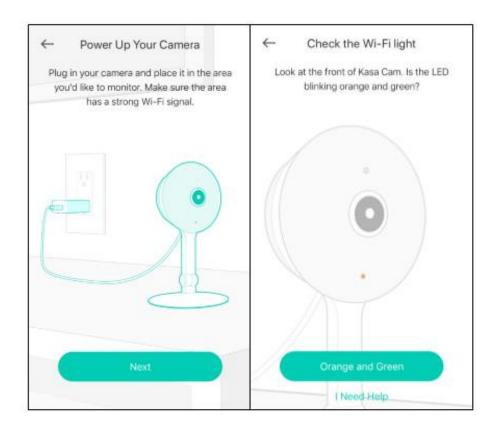


FIG. 10: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1957/.

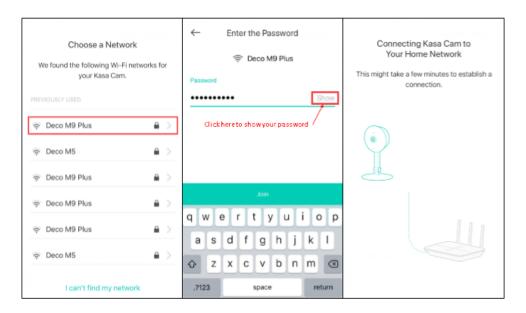


FIG. 11: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1957/.



FIG. 12: Support, TP-LINK, https://www.tp-link.com/us/support/faq/3564/.

- 51. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '933 patent.
- 52. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT II: INFRINGEMENT OF U.S. PATENT NO. 7,165,224

- 53. Plaintiff repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 54. The USPTO duly issued U.S. Patent No. 7,165,224 (hereinafter, the "'224 patent") on January 16, 2007, after full and fair examination of Application No. 10/262,969, which was filed on October 3, 2002. *See* '224 patent at 1.
- 55. IoT Innovations owns all substantial rights, interest, and title in and to the '224 patent, including the sole and exclusive right to prosecute this action and enforce the '224 patent against

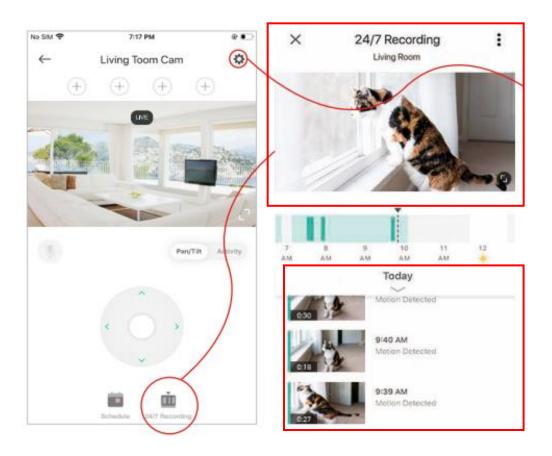
infringers and to collect damages for all relevant times.

- 56. The claims of the '224 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon the function and operation of image management in a mobile network.
- 57. The written description of the '224 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 58. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '224 patent.

Direct Infringement under § 271(a)

- 59. Based upon information and belief, Plaintiff is informed and believes that TP-Link has directly infringed one or more claims of the '224 patent by using, providing, supplying, or distributing the Accused Products.
- 60. Upon information and belief, Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '224 patent, as detailed in Attachment B to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit B**.
- 61. As just one example of infringement, as detailed in Exhibit B, the Accused Products (e.g., the TP-Link Smart WiFi Cameras, including KC410, C200, and C220) perform a method of

viewing an image on a mobile device, the method comprising the steps of storing in the mobile device a miniaturized version of an image being stored in the mobile device; transferring the image to an external storage device; deleting the image from the mobile device; detecting selection of the miniaturized version of the image; in response to detecting selection of the miniaturized version of the image, sending via a wireless communication network a first message requesting transfer of the image to the mobile device; and receiving a second message via the wireless communication network transferring the image to the mobile device. See FIGs. 13-14; see also KASA SMART, https://www.kasasmart.com/us/products/security-cameras; **K**ASA SMART, https://www.kasasmart.com/us/products/security-cameras/kasa-spot-pan-tilt-24-7-recording; YouTube, https://www.youtube.com/watch?v=CkAN5E2UdVc&t=30s; Kasa Spot Pan Tilt Datasheet, TP-LINK, https://static.tp-link.com/upload/product-Camera overview/2023/202304/20230421/KC410S(US)1.0&1.8 Datasheet.pdf; Kasa Spot Tilt Camera (KC410S) User Guide, TP-LINK, https://static.tplink.com/upload/manual/2021/202108/20210810/1910012918_KC410S(US)_UG_REV1.0.0.pdf SmartUser Guide (for Cameras), TP-LINK, Kasa App https://static.tplink.com/upload/manual/2023/202306/20230605/1910013369 Kasa%20Smart%20App%20(Ca mera) UG V1-0602.pdf.



<u>FIG. 13</u>: Kasa Spot Tilt Camera (KC410S) User Guide, TP-LINK, https://static.tp-link.com/upload/manual/2021/202108/20210810/1910012918 KC410S(US) UG_REV1.0.0.pdf

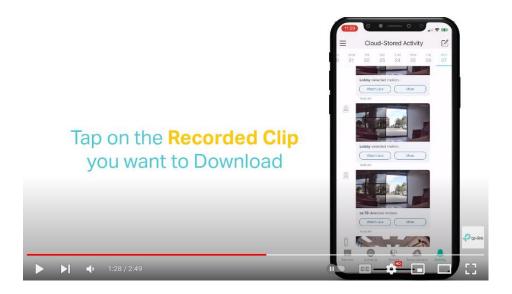


FIG. 14: YOUTUBE, https://www.youtube.com/watch?v=CkAN5E2UdVc&t=30s.

62. IoT Innovations has been damaged as a result of the infringing conduct by Defendants

alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

63. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '224 patent. Defendants' actions have interfered with and will interfere with Plaintiff's ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

Indirect Infringement under § 271(b) and (c)

- 64. Upon information and belief, Defendants willfully blinded themselves to the existence of the '224 patent and Defendants' infringement, but Defendants had knowledge of the '224 patent since at least the time of receiving the original complaint in this action.
- 65. Defendants have also indirectly infringed the '224 patent by inducing others to directly infringe the '224 patent.
- 66. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '224 patent by providing or requiring use of the Accused Products.
- 67. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '224 patent, including, for example, claim 1 of the '224 patent.

- 68. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on their website and/or *via* the TP-Link Tapo and TP-Link Kasa Smart Home Apps on how to use the Accused Products in an infringing manner.
- 69. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '224 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '224 patent.
- 70. Defendants' inducement is ongoing. *See, e.g.*, TP-LINK, *How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub*, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).
- 71. Defendants have also indirectly infringed by contributing to the infringement of the '224 patent. Defendants have contributed to the direct infringement of the '224 patent by their personnel, contractors, and customers.
- 72. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '224 patent, including, for example, claim 1 of the '224 patent.
- 73. The special features constitute a material part of the invention of one or more of the claims of the '224 patent and are not staple articles of commerce suitable for substantial non-infringing use.

74. Defendants' contributory infringement is ongoing. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).

Willful Infringement

- 75. Furthermore, on information and belief, Defendants have a policy or practice of not reviewing the patents of others, including instructing employees to not review the patents of others, and thus have been willfully blind of IoT Innovations' patent rights.
- 76. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

 Defendants' direct infringement of one or more claims of the '224 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

COUNT III: INFRINGEMENT OF U.S. PATENT NO. 7,246,173

- 77. Plaintiff repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 78. The USPTO duly issued U.S. Patent No. 7,246,173 (hereinafter, the "'173 patent") on July 17, 2007, after full and fair examination of Application No. 09/834,918, which was filed on April 16, 2001. *See* '173 patent at 1.
- 79. IoT Innovations owns all substantial rights, interest, and title in and to the '173 patent, including the sole and exclusive right to prosecute this action and enforce the '173 patent against infringers and to collect damages for all relevant times.
- 80. The claims of the '173 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include

inventive components that improve upon the function and operation of IP data classification systems and methods in packet switch networks.

- 81. The written description of the '173 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 82. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '173 patent.

Direct Infringement under § 271(a)

- 83. Based upon information and belief, Plaintiff is informed and believes that Defendants have directly infringed and continue to infringe one or more claims of the '173 patent by using, providing, supplying, or distributing the Accused Products.
- 84. Upon information and belief, Defendants have directly infringed and continue to infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '173 patent, as detailed in Attachment C to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit C**.
- 85. As just one example of infringement, as detailed in Exhibit C, the Accused Products perform a method of classifying Internet Protocol (IP) data to be sent from a source apparatus to a destination apparatus in a packet switched network, said method comprising: receiving said data at a first node, the data comprising a header comprising a list of at least one intermediate node to be visited on a way to the destination apparatus; and classifying said data at said first node based

on an entry in said header. *See FIG. 15*; *see also SR20 Specifications*, TP-LINK, https://www.tp-link.com/us/home-networking/smart-home-router/sr20/#specifications; S. Deering, et al., 2017. RFC 8200: Internet Protocol, Version 6 (IPv6) Specification. RFC Editor, USA. ("RFC 8200"), https://dl.acm.org/doi/pdf/10.17487/RFC8200 p. 1-26.

Protocols	Supports IPv4 and <u>IPv6</u> ZigBee HA Z-Wave Plus	
Package Contents	SR20 Smart Home Router Plug-in Power Supply Optional wall mount bracket Quick Start Guide	
Supported Operating Systems	Microsoft Windows, Mac OS, NetWare, UNIX or Linux Internet Explorer 11, Firefox 12.0, Chrome 20.0, Safari 4.0	

<u>FIG. 15</u>: Screenshots of the TP-Link Smart Home Router (SR20) specifications listed on Defendants' website. *See* SR20 Specifications, TP-LINK, https://www.tp-link.com/us/home-networking/smart-home-router/sr20/#specifications.

- 86. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.
- 87. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '173 patent. Defendants' actions have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

Indirect Infringement under § 271(b) and (c)

- 88. Upon information and belief, Defendants willfully blinded themselves to the existence of the '173 patent and Defendants' infringement, but Defendants had knowledge of the '173 patent since at least the time of receiving the original complaint in this action.
- 89. Defendants have also indirectly infringed the '173 patent by inducing others to directly infringe the '173 patent.
- 90. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '173 patent by providing or requiring use of the Accused Products.
- 91. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '173 patent, including, for example, claim 1 of the '173 patent.
- 92. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on their website and/or *via* the TP-Link Tapo and TP-Link Kasa Smart Home Apps on how to use the Accused Products in an infringing manner.
- 93. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '173 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products

by others would infringe the '173 patent.

- 94. Defendants' inducement is ongoing. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).
- 95. Defendants have also indirectly infringed by contributing to the infringement of the '173 patent.
- 96. Defendants have contributed to the direct infringement of the '173 patent by their personnel, contractors, and customers.
- 97. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '173 patent, including, for example, claim 1 of the '173 patent.
- 98. The special features constitute a material part of the invention of one or more of the claims of the '173 patent and are not staple articles of commerce suitable for substantial non-infringing use.
- 99. Defendants' contributory infringement is ongoing. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).

Willful Infringement

- 100. Furthermore, on information and belief, Defendants have a policy or practice of not reviewing the patents of others, including instructing employees to not review the patents of others, and thus have been willfully blind of IoT Innovations' patent rights.
- 101. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.

- 102. Defendants' direct infringement of one or more claims of the '173 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.
- 103. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT IV: INFRINGEMENT OF U.S. PATENT NO. 7,394,798

- 104. IoT Innovations repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 105. The USPTO duly issued U.S. Patent No. 7,394,798 (hereinafter, the "'798 patent") on July 1, 2008, after full and fair examination of Application No. 10/962,694 which was filed on October 13, 2004. *See* '798 patent at 1.
- 106. IoT Innovations owns all substantial rights, interest, and title in and to the '798 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.
- 107. The claims of the '798 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve upon tools for, and the function and operation of, push-to talk functions over ad-hoc networks, such that they can be provided reliably while controlled over overlay networks.
- 108. The written description of the '798 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-

conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

109. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '798 patent.

Direct Infringement under § 271(a)

- 110. Based upon information and belief, Plaintiff is informed and believes that Defendants have directly infringed one or more claims of the '798 patent by using, providing, supplying, or distributing the Accused Products.
- 111. Upon information and belief, Defendants have directly infringed and continue to directly infringe, either literally or under the doctrine of equivalents, at least claim 16 of the '798 patent, as detailed in Attachment D to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit D**.
- 112. As just one example of infringement, as detailed in Exhibit D, the Accused Products perform a method for controlling network system comprising: temporarily forming a first group including a first plurality of network nodes, temporarily forming a second group including a second plurality of network nodes, sending and receiving information between the first group and the second group, wherein a first network node included in the first plurality of network nodes and the second plurality of network nodes sends and receives the information between the first group and the second group; wherein the information is sent and received using a direct contact via a radio connection between at least two network nodes of the first group and the second group. See FIG. 16; see also SR20 Specifications, TP-LINK, https://www.tp-link.com/us/home-networking/smart-

home-router/sr20/#specifications. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

SR20 End of Life

Kasa Smart Home Router AC1900 Wi-Fi Router + Smart Home Hub + Touch Screen

- Connect your Wi-Fi, ZigBee and Z-Wave devices to a unified smart home network for increased performance, intelligence, reliability and peace of mind.
- Built-in smart home hub lets you control your favorite ZigBee, Z-Wave, and TP-Link Wi-Fi smart home devices from anywhere using the Kasa app.
- Easily set up, monitor and control your entire smart home network from the built-in touchscreen or the Kasa app. Pause internet access, manage guest access, control smart home devices, and more.
- Experience Gigabit Wi-Fi for all your gaming and streaming. Dual-band AC1900 Wi-Fi provides 1300 Mbps in 5GHz and 600 Mbps in 2.4GHz.
- Automatically turn on lights with sensors*, schedule lighting, set timers and more with built-in Smart Actions. (*Sensors sold separately)
- Requires a secured home Wi-Fi network connection

<u>FIG. 16</u>: SR20 Specifications, TP-LINK, https://www.tp-link.com/us/home-networking/smart-home-router/sr20/#specifications.

113. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to suffer this harm by virtue of Defendants' infringement of the '798 patent. Defendants' actions have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case

Indirect Infringement under § 271(b) and (c)

- 114. Upon information and belief, Defendants willfully blinded themselves to the existence of the '798 patent and Defendants' infringement, but Defendants had knowledge of the '798 patent since at least the time of receiving the original complaint in this action.
- 115. Defendants have also indirectly infringed and continue to indirectly infringe one or more claims of the '798 patent by inducing others to directly infringe said claims.
- 116. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either literally or under the doctrine of equivalents, the '798 patent by providing or requiring use of the Accused Products.
- 117. Defendants have taken active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '798 patent, including, for example, claim 16.
- 118. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on their website and/or *via* the TP-Link Tapo and TP-Link Kasa Smart Home Apps on how to use the Accused Products in an infringing manner.
- 119. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '798 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '798 patent.

- 120. Defendants' inducement is ongoing. *See, e.g.*, TP-LINK, *How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub*, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).
- 121. Defendants have also indirectly infringed and continue to indirectly infringe by contributing to the infringement of the '798 patent.
- 122. Defendants have contributed to the direct infringement of the '798 patent by their personnel, contractors, and customers.
- 123. The Accused Products have special features that are specially designed to be used in an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '798 patent, including, for example, claim 16.
- 124. The special features constitute a material part of the invention of one or more of the claims of the '798 patent and are not staple articles of commerce suitable for substantial non-infringing use.
- 125. Defendants' contributory infringement is ongoing. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).

Willful Infringement

- 126. Furthermore, on information and belief, Defendants have a policy or practice of not reviewing the patents of others, including instructing employees to not review the patents of others, and thus have been willfully blind of IoT Innovations' patent rights.
- 127. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.
 - 128. Defendants' direct infringement of one or more claims of the '798 patent is, has been,

and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.

129. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT V: INFRINGEMENT OF U.S. PATENT NO. 7,526,762

- 130. IoT Innovations repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 131. The USPTO duly issued U.S. Patent No. 7,526,762 (hereinafter, the "'762 patent") on April 28, 2009 after full and fair examination of Application No. 09/659,416 which was filed on September 11, 2000. *See* '762 patent at 1.
- 132. IoT Innovations owns all substantial rights, interest, and title in and to the '762 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.
- 133. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '762 patent.
- 134. The claims of the '762 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components and functionalities that improve upon the function, operation, distribution, and security of software updates on terminal servers using configuration servers and messaging to control upgrade delivery.

- 135. The written description of the '762 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 136. Defendants have directly infringed and continue to directly infringe one or more claims of the '762 patent by making, using, selling, offering to sell, providing, supplying, or distributing the Accused Products.
- 137. Defendants have directly infringed and continue to directly infringe, either literally or under the doctrine of equivalents, at least claim 19 of the '762 patent, as detailed in Attachment E to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit E**.
- As just one example of infringement, as detailed in Exhibit E, Defendants, using the Accused Products, provides a system comprising: a configuration server unit for receiving a configuration upgrade message from a source of an at least partial software upgrade, for identifying a plurality of users requiring the at least partial software upgrade and for thereafter providing the at least partial software upgrade to respective terminal servers associated with the plurality of users identified to require the at least partial soft-ware upgrade for subsequent distribution by the terminal servers to respective terminals of users identified to require the at least partial software upgrade, the configuration server unit being further configured to identify any terminal servers, following the provision of the at least partial software upgrade, to which the at least partial software upgrade has not yet been transferred and to determine, in response to activation of a terminal associated with a terminal server, if the terminal server has been identified as a terminal server to which the at least partial software upgrade has not yet been transferred and, if so, provide the at

least partial software upgrade to the terminal server, wherein said configuration server unit comprises a database for saving upgrade information provided by the source of the at least partial soft-ware upgrade and for associating the saved upgrade information with the source of the at least partial software upgrade. See FIGs. 17–19; see also Tapo Smart IoT Hub with Chime (H100) Datasheet, TP-LINK, https://static.tp-link.com/upload/productoverview/2022/202208/20220801/Tapo%20H100(EU)1.0_Datasheet.pdf; YOUTUBE, https://www.youtube.com/watch?v=At4rjWpldjE; TP-LINK, Support, https://www.tplink.com/us/support/faq/2621/; YOUTUBE, https://www.youtube.com/watch?v=AiLrgxWV6e0; YOUTUBE, https://www.youtube.com/watch?v=21r2cPu12Ls; YOUTUBE, https://www.youtube.com/watch?v=VFsEyrmkO7c.

139. Upon information and belief, as just one example of infringement, the Accused Products (*e.g.*, the TP-Link Tapo Home security ecosystem system), as detailed in Exhibit E, uses one or more configuration server units for receiving firmware configuration upgrades messages from a source of an at least partial firmware upgrade, including, for example, (i) a firmware upgrade for the Tapo Smart IoT Hub; (ii) a firmware upgrade for one or more devices communicating with Tapo Home's Smart IoT Hub.

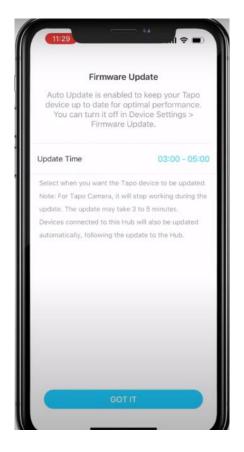


FIG. 17: YOUTUBE, https://www.youtube.com/watch?v=At4rjWpldjE.

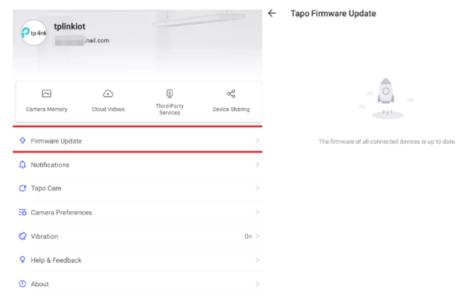


FIG. 18: Support, TP-LINK, https://www.tp-link.com/us/support/faq/2621/.

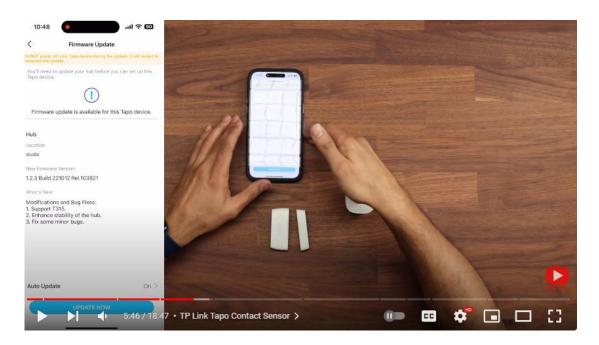


FIG. 19: YOUTUBE, https://www.youtube.com/watch?v=AiLrgxWV6e0.

140. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VI: INFRINGEMENT OF U.S. PATENT NO. 7,983,282

- 141. IoT Innovations repeats and re-alleges the allegations in the Paragraphs above as though fully set forth in their entirety.
- 142. The USPTO duly issued U.S. Patent No. 7,983,282 (hereinafter, the "'282 patent") on July 19, 2011 after full and fair examination of Application No. 12/486,008 which was filed on June.17, 2009. *See* '282 patent at 1. A Certificate of Correction was issued July 16, 2013. *See id.* at F-19.
- 143. IoT Innovations owns all substantial rights, interest, and title in and to the '282 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.

- 144. The claims of the '282 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components and functionalities hat improve upon the function, operation, and security of communications devices and networks by personalizing a user experience across devices by using a personal digital gateway to communicate data associated with a common user to a plurality of communication devices.
- 145. The written description of the '282 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.
- 146. Defendants have directly infringed and continue to directly infringe one or more claims of the '282 patent by making, using, selling, offering to sell, providing, supplying, or distributing the Accused Products.
- 147. Defendants have directly infringed and continue to directly infringe, either literally or under the doctrine of equivalents, at least claim 1 of the '282 patent, as detailed in Attachment F to the Evidence of Use, which is incorporated by reference herein and attached as **Exhibit F**.
- As just one example of infringement, as detailed in Exhibit F, the Accused Products, as used by Defendants and/or their customers, perform a method, comprising: (a) identifying data associated with a common user of a personal digital gateway and of a plurality of communications devices; (b) receiving a selection of a communications device from the plurality of communications devices; (c) retrieving remote data from a selected communications device; and (d) forwarding the remote data to another one of the plurality of communications devices. *See*

FIGs. 20–21; see also Smart Home Router (SR20) Data Sheet, TP-LINK, https://static.tp-link.com/SR20(EU&US) V1 Datasheet.pdf; Press, TP-LINK, https://www.tp-link.com/us/press/news/16334/; Smart Home Router (SR20) User Guide, TP-Link, TP-LINK, https://static.tp-link.com/1910012101 SR20(EU)&(US) V1 UserGuide.pdf; TP-Link Kasa Smart Router, AMAZON.COM, https://www.amazon.com/Kasa-Smart-WiFi-Router-TP-Link/dp/B077Y939JQ; YOUTUBE, https://www.youtube.com/watch?v=otzCbJxnHUo.



<u>FIG. 20</u>: Screenshots from Defendants' website. *Kasa Smart Home Router (SR20)*, TP-LINK, https://www.tp-link.com/us/home-networking/smart-home-router/sr20/.



Smart Home Router

AC1900 Router + Smart Home Hub + Touchscreen
A home network is the foundation of any smart home. The
SR20 is an all-in-one Router and Smart Home Hub that
delivers fast Gigabit Wi-fi speeds while letting you connect
your favorite Wi-Fi, ZigBee and Z-Wave smart home devices
all on the same home network. Easily monitor and control
your your smart home and your home network from
anywhere using the Kasa app.





All of Your Devices on One Smart Home Network

With an AC1900 Wi-Fi Router and built-in smart home hub, the SRZ0 seamlessly connects your Wi-Fi, ZigBee and Z-Wave devices all on one home network, making your smart home easier to manage and more reliable.



One App to Simplify Your Smart Home The SR20 and Kasa app brings your home together. You can control internet access, set smart home schedules, or control your home from anywhere. Whether you're at work or sliding under the covers for some much needed rest, the Kasa App gives you one easy place to easily monitor and and control your entire smart home.



A Smart Home Ecosystem that Grows with You

Connect your favorite smart home devices with the SR20 all-in-one smart home router and hub. The Kasa ecosystem is always growing to support leading smart home devices, and services.

See the full list of supported products at our official website.

<u>FIG. 21</u>: TP-Link Kasa Smart Router, AMAZON.COM, https://www.amazon.com/Kasa-Smart-WiFi-Router-TP-Link/dp/B077Y939JQ.

- 149. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '282 patent.
- 150. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.

COUNT VII: INFRINGEMENT OF U.S. PATENT NO. RE44191

151. Plaintiff repeats and re-alleges the allegations in the Paragraphs below as though fully set forth in their entirety.

- 152. The USPTO duly issued U.S. Patent No. RE44,191 (hereinafter, the "'191 patent") on April 30, 2013 after full and fair examination of Application No. 12/788,218 which was filed on May 26, 2010. *See* '191 patent at 1. The '191 patent is a reissue of U.S. Patent No. 7,379,975. *See id.*
- 153. IoT Innovations owns all substantial rights, interest, and title in and to the '191 patent, including the sole and exclusive right to prosecute this action and enforce it against infringers and to collect damages for all relevant times.
- 154. IoT Innovations or its predecessors-in-interest have satisfied all statutory obligations required to collect pre-filing damages for the full period allowed by law for infringement of one or more claims of the '191 patent.
- 155. The claims of the '191 patent are not directed to an abstract idea and are not limited to well-understood, routine, or conventional activity. Rather, the claimed inventions include inventive components that improve the setting up of applications involving shared application data.
- 156. The written description of the '191 patent describes in technical detail each limitation of the claims, allowing a skilled artisan to understand the scope of the claims and how the non-conventional and non-generic combination of claim limitations is patently distinct from and improved upon what may have been considered conventional or generic in the art at the time of the invention.

Direct Infringement under § 271(a)

- 157. Defendants have directly infringed one or more claims of the '191 patent by using, providing, supplying, or distributing the Accused Products.
- 158. Defendants have directly infringed, either literally or under the doctrine of equivalents, at least claim 19 of the '191 patent, as detailed in Attachment G to the Evidence of Use, which is

incorporated by reference herein and Attached here as **Exhibit G**.

159. As just one example of infringement, as detailed in Exhibit G, the Defendants, using the Accused Products, provide a computer program embodied on a non-transitory computer readable storage medium, for executing a computer process in an electric device, the computer process including steps, the steps including: inputting instructions to execute at least one command from another electric device over a proximity interface, the at least one command being associated with a user application, the user application using application data shared between the electric device and the other electric device, at least a portion of the application data being communicated between the electric device and the other electric device by using a wireless interface; and executing the at least one command on the basis of the instructions, wherein the at least one command is used to replace a series of actions of the user and wherein the at least one command enables interactive operation between the user application of the electric device and a user application of the other electric device. See FIGs. 22–27; see also SR20 Specifications, TP-LINK, https://www.tp-link.com/us/home-networking/smart-home-router/sr20/#specifications; Support, TP-LINK, https://www.tp-link.com/us/support/faq/2067/; Support, TP-LINK, https://www.tp-link.com/us/support/faq/2067/; https://www.tp-link.com/us/support/fad/2067/; https://www.tp-link.com/us/support/fad/2067/; <a href="ht link.com/us/support/fag/1234/#; User Guide, TP-LINK, Smart Home Router (SR20) AC1900 Wi-FiRouter **Smart** Home HubTouch Screen, https://static.tplink.com/1910012101_SR20(EU)&(US)_V1_UserGuide.pdf.



<u>FIG. 22</u>: User Guide, TP-LINK, Smart Home Router (SR20) AC1900 Wi-Fi Router + Smart Home Hub + Touch Screen, https://static.tp-link.com/1910012101_SR20(EU)&(US)_V1_UserGuide.pdf.

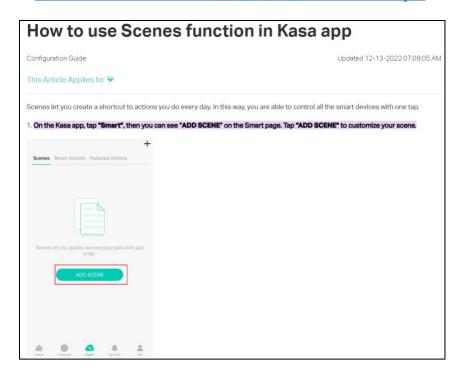


FIG. 23: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1234/#.

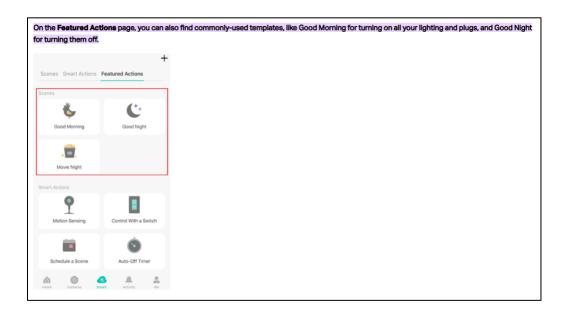


FIG. 24: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1234/#.

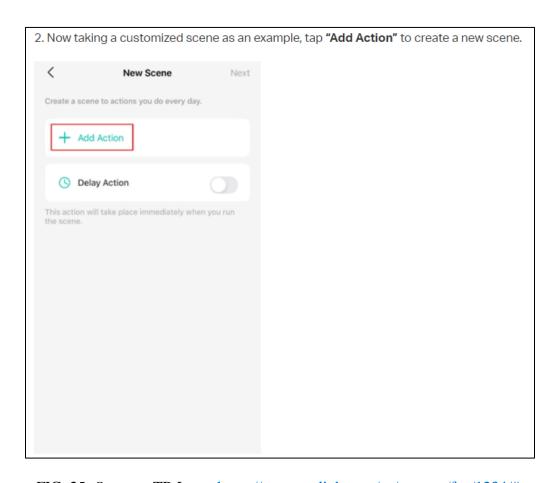


FIG. 25: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1234/#.



FIG. 26: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1234/#.

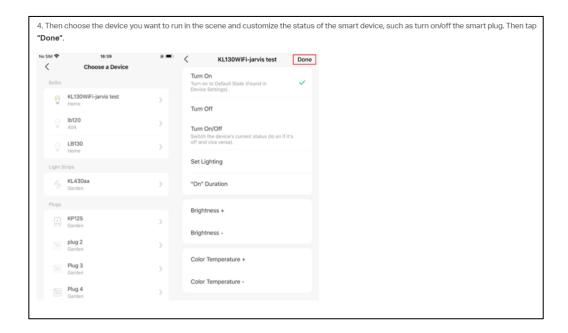


FIG. 27: Support, TP-LINK, https://www.tp-link.com/us/support/faq/1234/#.

Indirect Infringement under § 271(b) and (c)

- 160. Upon information and belief, Defendants willfully blinded themselves to the existence of the '762 patent and Defendants' infringement, but Defendants had knowledge of the '191 patent since at least the time of receiving the original complaint in this action.
- 161. Defendants have also indirectly infringed the '191 patent by inducing others to directly infringe the '191 patent.
- 162. Defendants have induced end-users, including, but not limited to, Defendants' employees, partners, contractors, customers, and/or potential customers, to directly infringe, either

literally or under the doctrine of equivalents, the '191 patent by providing or requiring use of the Accused Products.

- 163. Defendants took active steps, directly or through contractual relationships with others, with the specific intent to cause them to use the Accused Products in a manner that infringes one or more claims of the '191 patent, including, for example, claim 19 of the '191 patent.
- 164. Such steps by Defendants included, among other things, advising or directing personnel, contractors, or end-users to use the Accused Products in an infringing manner; advertising and promoting the use of the Accused Products in an infringing manner; distributing instructions that guide users to use the Accused Products in an infringing manner; and/or providing ongoing instructional and technical support to customer on their website and/or *via* the TP-Link Tapo and TP-Link Kasa Smart Home Apps on how to use the Accused Products in an infringing manner.
- 165. Defendants are performing these steps, which constitute induced infringement with the knowledge of the '191 patent and with the knowledge that the induced acts constitute infringement. Defendants are aware that the normal and customary use of the Accused Products by others would infringe the '191 patent.
- 166. Defendants' inducement is ongoing. *See, e.g.*, DEFENDANTS, *How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub*, https://www.tapo.com/us/faq/155/ (last visited March 28, 2024).
- 167. Defendants have also indirectly infringed by contributing to the infringement of the '191 patent. Defendants have contributed to the direct infringement of the '191 patent by their personnel, contractors, and customers.
 - 168. The Accused Products have special features that are specially designed to be used in

an infringing way and that have no substantial uses other than ones that infringe one or more claims of the '191 patent, including, for example, claim 19 of the '191 patent.

- 169. The special features constitute a material part of the invention of one or more of the claims of the '191 patent and are not staple articles of commerce suitable for substantial non-infringing use.
- 170. Defendants' contributory infringement is ongoing. See, e.g., TP-LINK, How to Pair and Connect Tapo Sensors, Buttons and Other Devices to Tapo Hub, https://www.tapo.com/us/fag/155/ (last visited March 28, 2024).

Willful Infringement

- 171. Furthermore, on information and belief, Defendants have a policy or practice of not reviewing the patents of others, including instructing employees to not review the patents of others, and thus have been willfully blind of IoT Innovations' patent rights.
- 172. Defendants' actions are at least objectively reckless as to the risk of infringing a valid patent and this objective risk was either known or should have been known by Defendants.
- 173. Defendants' direct infringement of one or more claims of the '191 patent is, has been, and continues to be willful, intentional, deliberate, or in conscious disregard of IoT Innovations' rights under the patent.
- 174. IoT Innovations has been damaged as a result of the infringing conduct by Defendants alleged above. Thus, Defendants are liable to IoT Innovations in an amount that compensates it for such infringements, which by law cannot be less than a reasonable royalty, together with interest and costs as fixed by this Court under 35 U.S.C. § 284.
- 175. IoT Innovations has suffered irreparable harm, through its loss of market share and goodwill, for which there is no adequate remedy at law. IoT Innovations has and will continue to

suffer this harm by virtue of Defendants' infringement of the '191 patent. Defendants' actions have interfered with and will interfere with IoT Innovations' ability to license technology. The balance of hardships favors IoT Innovations' ability to commercialize its own ideas and technology. The public interest in allowing IoT Innovations to enforce its right to exclude outweighs other public interests, which supports injunctive relief in this case.

JURY DEMAND

176. IoT Innovations hereby requests a trial by jury on all issues so triable by right.

PRAYER FOR RELIEF

- 177. IoT Innovations requests that the Court find in its favor and against Defendants, and that the Court grant IoT Innovations the following relief:
 - Judgment that one or more claims of each of the Asserted Patents has been infringed,
 either literally or under the doctrine of equivalents, by Defendants or others acting in
 concert therewith;
 - b. A permanent injunction enjoining Defendants and their officers, directors, agents, servants, affiliates, employees, divisions, branches, subsidiaries, parents, and all others acting in concert therewith from infringement of the '224 patent, '173 patent, '798 patent, and '191 patent; or, in the alternative, an award of a reasonable ongoing royalty for future infringement of said patents by such entities;
 - c. Judgment that Defendants account for and pay to IoT Innovations all damages to and costs incurred by IoT Innovations because of Defendants' infringing activities and other conduct complained of herein;
 - d. Judgment that Defendants' infringements be found willful as to the '224 patent, '173 patent, '798 patent, and '191 patent, and that the Court award treble damages for the

period of such willful infringement pursuant to 35 U.S.C. § 284;

- e. Pre-judgment and post-judgment interest on the damages caused by Defendants' infringing activities and other conduct complained of herein;
- f. That this Court declare this an exceptional case and award IoT Innovations its reasonable attorneys' fees and costs in accordance with 35 U.S.C. § 285; and
- g. All other and further relief as the Court may deem just and proper under the circumstances.

Dated: March 28, 2024 Respectfully submitted,

By: /s/ James F. McDonough, III

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List of Exhibits

- A. Attachment A to the Evidence of Use
- B. Attachment B to the Evidence of Use
- C. Attachment C to the Evidence of Use
- D. Attachment D to the Evidence of Use
- E. Attachment E to the Evidence of Use
- F. Attachment F to the Evidence of Use
- G. Attachment G to the Evidence of Use

List of Supporting Links

- 1. U.S. Patent No. 6,801,933, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/6801933.
- 2. U.S. Patent No. 7,165,224, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7165224.
- 3. U.S. Patent No. 7,246,173, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7246173.
- 4. U.S. Patent No. 7,394,798, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7394798.
- 5. U.S. Patent No. 7,526,762, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7526762.
- 6. U.S. Patent No. 7,983,282, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/7983282.
- 7. U.S. Patent No. RE44191, USTPO.GOV, https://image-ppubs.uspto.gov/dirsearch-public/print/downloadPdf/RE44191.
- 8. *External Photo*, FCCID.IO, https://fccid.io/TE7SR20/External-Photos/External-Photos-3187339.pdf.
- 9. *Label Location*, FCCID.IO, https://fccid.io/TE7HS210V3/Label/HS210-label-and-location-4887177.pdf.
- 10. *Label Location*, FCCID.IO, https://fccid.io/TE7HS200V5/Label/HS200-label-and-location-4888665.pdf.
- 11. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4H100/Label/4-Label-and-location-5394498.pdf.

- 12. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4P105/Label/4-Label-and-location-6060817.pdf.
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- 14. Supply Chain Intelligence, PANJIVA, Tp Link Technologies Co., Ltd., https://panjiva.com/Tp-Link-Technologies-Co-Ltd/27804596.
- 15. Where to Buy, TP-LINK, https://www.tp-link.com/us/where-to-buy/.
- 16. WALMART, https://www.walmart.com/search?q=AC1900+Wi-Fi+Router&facet=brand%3ATP-Link.
- 17. WALMART,https://www.walmart.com/search?q=TP-Link+HS210+Kasa+Smart+Wi-Fi+Light+Switch.
- 18. Best Buy, https://www.bestbuy.com/site/searchpage.jsp?st=TP-Link+P105+Mini+Plug.
- 19. Locations, CDW, https://www.cdw.com/content/cdw/en/locations.html.
- 20. *TP-Link*, CDW, https://www.cdw.com/product/tp-link-kasa-smart-kl125-new-kasa-smart-bulb-multicolor/7099178?pfm=rvi#TS.
- 21. *TP-Link*, CDW, https://www.cdw.com/product/tp-link-archer-c7-ac1750-wireless-router/3427520?pfm=rvi.
- 22. *TP-Link*, CDW, https://www.cdw.com/product/tp-link-kasa-cam-outdoor-2k-hd-wi-fi-security-camera/6940100.
- 23. AUT Report, FCCID.IO, https://fcc.report/FCC-ID/2BCGWC220/6864777.
- 24. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4C720/Label/13-Label-and-location-6270201.pdf.
- 25. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4T315/Label/Label-and-Label-location-6344372.pdf.
- 26. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4H200/Label/13-Label-and-location-6134967.pdf.
- 27. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4D230/Label/Label-and-Label-location-6440238.pdf.
- 28. *Label Location*, FCCID.IO, https://fccid.io/2AXJ4D100C/Label/label-and-label-location-6491367.pdf.
- 29. TP-Link Privacy Policy, TP-LINK, https://www.tp-link.com/us/about-us/privacy/.

- 30. *Smart Plugs*, TP-LINK, https://www.tp-link.com/us/home-networking/smart-plug/tapo-p105/.
- 31. *Smart Sensors*, TP-LINK, https://www.tp-link.com/us/smart-home/smart-sensor/tapo-t315/.
- 32. *Smart Hub*, TP-LINK, https://www.tp-link.com/us/home-networking/smart-hub/tapo-h100/.
- 33. *TP-Link Brand Ambassador Program*, TP-Link, https://www.tp-link.com/us/brandambassador/.
- 34. *Datasheet*, TP-LINK, *Tapo H100 Smart IoT Hub with Chime*, https://static.tp-link.com/upload/product-overview/2022/202208/20220808/Tapo%20H100(US)1.0_Datasheet.pdf.
- 35. YOUTUBE, https://www.youtube.com/watch?v=21r2cPu12Ls.
- 36. YouTube, https://www.youtube.com/watch?v=At4rjWpldjE.
- 37. TP-LINK, *How to Pair and Connect Tapo Sensors*, *Buttons and Other Devices to Tapo Hub*, https://www.tapo.com/us/faq/155/.
- 38. *Specifications*, TP-LINK, https://www.tapo.com/us/product/smart-hub/tapo-h100/#tapo-product-spec.
- 39. *Internal Photos*, FCCID.IO, https://fccid.io/2AXJ4H100/Internal-Photos/7-Internal-Photos-6247137.pdf.
- 40. *Antenna Specifications*, FCCID.IO, https://fccid.io/2AXJ4H100/Test-Report/9-Antenna-Specification-rev2-6247142.pdf.
- 41. TP-Link, *TP-Link*® *Powers the Home with All-in-one Smart Home Router and New Line of Connected Devices* (Jan. 6, 2016), https://www.tp-link.com/us/press/news/16334/.
- 42. *SR20 Kasa Smart Home Router*, TP-LINK,https://www.tp-link.com/us/home-networking/smart-home-router/sr20/.
- 43. YOUTUBE, https://www.youtube.com/watch?v=otzCbJxnHUo.
- 44. *Datasheet*, TP-Link, *Tapo P105 Mini Smart Wi-Fi Plug*, https://static.tp-link.com/2020/202008/20200819/Tapo%20P105(US)1.0 Datasheet.pdf.
- 45. User Guide, TP-LINK, Tapo Smart Wi-Fi Light Bulb Tapo L510/L530 Series, https://static.tp-link.com/upload/manual/2023/202303/2023031/1910013377 Tapo% 20L510&L530 U G V1.pdf.
- 46. YOUTUBE, https://www.youtube.com/watch?v=Mbzdlxxn3cw.

- 47. YOUTUBE, https://www.youtube.com/watch?v=ozBOifbkqGk.
- 48. Datasheet, TP-Link, Smart Home Router AC1900 Wi-Fi Router + Smart Home Hub + Touch Screen, https://static.tp-link.com/SR20(EU&US) V1_Datasheet.pdf.
- 49. User Guide, TP-LINK, Smart Home Router (SR20) AC1900 Wi-Fi Router + Smart Home Hub + Touch Screen, https://static.tp-link.com/1910012101_SR20(EU)&(US)_V1_UserGuide.pdf
- 50. Kasa Smart App User Guide (for Cameras), TP-LINK, https://static.tp-link.com/upload/manual/2023/202306/20230605/1910013369 Kasa% 20Smart% 20App% 20(Camera) UG_V1-0602.pdf.
- 51. Support, TP-LINK, https://www.tp-link.com/us/support/faq/1957/.
- 52. Support, TP-LINK, https://www.tp-link.com/us/support/faq/3564/.
- 53. YOUTUBE, https://www.youtube.com/watch?v=TicTnn6EugQ.
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