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18 **UNITED STATES DISTRICT COURT**
 19 **NORTHERN DISTRICT OF CALIFORNIA**

20 ECOFACTOR, INC.

21 Plaintiff,

22 v.

23 GOOGLE LLC,

24 Defendant.

Case No. 5:24-cv-00175

COMPLAINT

DEMAND FOR JURY TRIAL

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1 **ECOFACTOR’S COMPLAINT FOR PATENT INFRINGEMENT**

2 1. Plaintiff, EcoFactor, Inc., a Delaware corporation (“EcoFactor” or
3 “Plaintiff”) through its undersigned counsel, for its claims against Defendant Google
4 LLC (“Google” or “Defendant”), alleges as follows:

5 **INTRODUCTION**

6 2. These claims arise from Defendant’s unlawful infringement of the
7 following United States patent owned by EcoFactor: U.S. Patent No. 11,835,394 (the
8 “Asserted Patent”). EcoFactor owns all right, title, and interest in the Asserted
9 Patent.

10 3. EcoFactor is a privately held company, having its principal place of
11 business at 441 California Avenue, Number 2, Palo Alto, CA 94301. EcoFactor was
12 founded in 2006 and is headquartered in Palo Alto, California. EcoFactor is a leader
13 in smart home energy management services. EcoFactor delivers smart home energy
14 management services that improve energy efficiency, reduce energy bills, and vastly
15 increase demand response efficacy – all while maintaining consumer comfort.
16 EcoFactor’s patented big-data analytics and machine learning algorithms collect and
17 process massive amounts of residential data – including home thermodynamics,
18 family comfort preferences and schedules, plus external data such as weather – to
19 continually monitor, adapt and learn for optimum energy savings. The company
20 provides homeowners significant cost savings and energy usage benefits.
21 EcoFactor’s award-winning service has been offered through channel partners such
22 as utilities, energy retailers, broadband service providers, and HVAC companies.

23 4. EcoFactor transformed how homes use energy by applying advanced
24 analytics to connected devices in the home. EcoFactor developed a suite of software
25 known as the “EcoFactor Platform” that incorporates EcoFactor’s patented data
26 analytics and machine learning algorithms, as well as EcoFactor’s award-winning
27 smart HVAC control technologies. The EcoFactor Platform is software that runs on
28 servers, including cloud servers, in the United States, and provides service to

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1 customers in the United States. The source code of the EcoFactor Platform, including
2 for example the platform, quant, and mobile application source code, that comprises
3 the EcoFactor Platform was designed by, created by, and is continuously maintained
4 and improved by EcoFactor employees working in the United States. The EcoFactor
5 Platform actively manages thermostats on occupants' behalf in intelligent ways that
6 improve comfort while helping them save time, energy and money. Utilities, home
7 service providers, and homeowners rely on EcoFactor for demand response, energy
8 efficiency, and HVAC performance monitoring services. The EcoFactor Platform
9 includes the software that practices EcoFactor's patents on these features. For
10 example, the EcoFactor Platform includes EcoFactor's patented techniques for
11 monitoring the health and performance of HVAC systems over time, smart
12 thermostat scheduling to improve energy savings and optimize comfort for
13 occupants, and thermodynamic modeling of the user's home and HVAC system to
14 enable dynamic pre-cooling and pre-heating to further improve comfort, save
15 energy, or both, by creating comfortable schedules that also shift energy usage out
16 of periods of peak energy demand.

17 5. The patented innovations at issue in this action were invented by
18 EcoFactor engineers and researchers. EcoFactor has played a significant role in the
19 development and advancement of such improvements to energy management
20 technology—and the domestic market for them. EcoFactor has expended tens of
21 millions of dollars of research and development and technical services and support
22 in the United States. In recent years, an explosion of imported products that infringe
23 EcoFactor's innovative technologies has significantly eroded EcoFactor's market
24 standing. This infringement action is about patented improvements to smart
25 thermostat systems, smart HVAC systems, and smart HVAC control systems—
26 which took years of research and millions of dollars in U.S. investments to develop,
27 and which are infringed by Defendant's accused products.

28

PARTIES

6. Plaintiff EcoFactor is a privately held company, having its principal place of business at 441 California Avenue, Number 2, Palo Alto, CA 94301. EcoFactor was founded in 2006 and is headquartered in Palo Alto, California. EcoFactor is the sole owner of all right, title, and interest in each Asserted Patent.

7. Defendant Google LLC is a subsidiary of Alphabet Inc. with its principal place of business located at 1600 Amphitheatre Parkway, Mountain View, California 94043.

JURISDICTION AND VENUE

8. This court has original jurisdiction over EcoFactor's counterclaims pursuant to 28 U.S.C. §§ 1331 and 1338(a) because they arise under the patent laws of the United States, Title 35 of the United States Code.

9. Venue is proper in this District under 28 U.S.C. §§ 1391(b) and 1400(b) because Google resides in this District, and also because Google is subject to personal jurisdiction in this District, and a substantial part of the events giving rise to EcoFactor's claims of infringement (such as the development and sale of Nest-branded thermostats) occurred in this District.

THE TECHNOLOGY AND PRODUCTS AT ISSUE

10. The products accused of infringement ("Accused Products") are smart thermostat systems, smart HVAC systems, smart HVAC control systems, and all components (including accessories) thereof offered for sale by the Defendant, including the Google Nest Thermostat and Nest Learning Thermostat Third Generation. The Accused Products includes Google's servers and data centers that provide cloud-based server backend support for the features of the Nest-branded thermostats, Google services or Nest services supporting the Nest-branded thermostats, related online interfaces for the Nest-branded thermostats (including, e.g., mobile apps and web portals), and related accessories for the Nest-branded thermostats (including, e.g., Nest remote temperature sensors), and including device-

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1 side and cloud-based features thereof, and all versions and variations thereof since
2 the issuance of the Asserted Patent.

3 11. The Accused Products include thermostat systems that connect to and
4 control an HVAC system. These thermostat devices communicate over a network
5 with other devices and systems offered by the Defendant. The Accused Products
6 connect to the network managed by the Defendant via the Internet. For example, the
7 Accused Products connect to Defendant’s networked servers and data centers, online
8 interfaces, and related accessories.

9 12. When connected as designed, the Accused Products form a smart
10 thermostat system, smart HVAC system, and/or smart HVAC climate control
11 system. Defendant’s smart thermostat systems are “smart” including because they
12 are designed to connect to Defendant’s servers and data centers (including, e.g.,
13 cloud-based servers and backend support), related online interfaces (including, e.g.,
14 mobile apps and web portals), and related accessories (e.g., remote temperature
15 sensors). Further, Defendant’s smart thermostat systems are “smart” including
16 because they support and are marketed as providing features to end users that analyze
17 thermostat and HVAC system data to provide advanced smart thermostat features.

18 13. The Accused Products constitute the “frontend” of the smart thermostat
19 system, smart HVAC system, and/or smart HVAC control system. Such smart
20 thermostat devices can be programmed using the servers and the network maintained
21 by Defendant and which form the “backend” for the smart thermostat. Such smart
22 thermostat systems can be programmed remotely with a web or mobile application
23 offered by Defendant. The web or mobile application communicates with the smart
24 thermostat via computer servers or data centers managed by the Defendant, who sells
25 and imports the smart thermostat. For example, Defendant allows an end user to use
26 a web or mobile application on a mobile phone, tablet, laptop, or other computing
27 device to control the smart thermostat systems, such as by adjusting temperature
28 settings.

1 14. These smart thermostat systems also communicate data using the
2 network. For example, Defendant's smart thermostat systems send and receive
3 temperature data and/or temperature settings using the network.

4 15. Defendant's Accused Products are designed and specially made and
5 adapted to infringe claims of the Asserted Patents and to embody a material part of
6 the claimed inventions. The Accused Products are installed and used in the United
7 States according to Defendant's design and instructions. Defendant has knowledge
8 as well as notice of its infringement of each asserted patent at least as of the date of
9 the Complaint. Defendant knowingly induces and encourages the use of the
10 Accused Products in the United States in a manner that infringes the asserted claims
11 of the Asserted Patents. Defendant infringes the Asserted Patents directly, through
12 making, using, selling, and/or offering for sale the Accused Products. Defendant
13 also infringes the Asserted Patents indirectly, both for example through contributory
14 infringement as well as through induced infringement. The infringement of the
15 Asserted Patents is also attributable to Defendant. Defendant and/or users of the
16 Accused Products direct and control use of the Accused Products to perform acts
17 that result in infringement the Asserted Patents, conditioning benefits on
18 participation in the infringement and establishing the timing and manner of the
19 infringement.

20 **COUNT I:**

21 **INFRINGEMENT OF U.S. PATENT NO. 11,835,394**

22 16. EcoFactor realleges and incorporates by reference the foregoing
23 paragraphs as if fully set forth herein.

24 17. U.S. Patent No. 11,835,394 (the "'394 Patent"), titled "System and
25 Method for Evaluating Changes in the Efficiency of an HVAC System," issued on
26 December 5, 2023. Ex. 1 ('394 Patent). The inventors of the '394 Patent are John
27 Douglas Steinberg and Scott Douglas Hublou. The '394 Patent is based on U.S. Pat.
28 App. No. 18/104,767, filed on Feb. 1, 2023, which claims priority to U.S. Provisional

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1 App. No. 60/994,011, filed on September 17, 2007. A true and correct copy of
2 the '394 Patent is attached as Exhibit 1.

3 18. On information and belief, Defendant makes, uses, offers for sale, sells,
4 and/or imports certain products (“Accused Products”), such as the Nest Thermostat
5 and Nest Learning Thermostat Third Generation, including device-side and cloud-
6 based features thereof, and related accessories, that directly infringe, literally and/or
7 under the doctrine of equivalents, at least claims 1, 3, 4, 6, 10, 12, 13, and 15 of the
8 '394 Patent.

9 19. The infringement of the '394 Patent is also attributable to Defendant. For
10 example, Defendant directs and controls use of the Accused Products to perform acts
11 that result in infringement of the patent, conditioning benefits on participation in the
12 infringement and establishing the timing and manner of the infringement.

13 20. Defendant also knowingly and intentionally induces infringement of
14 claims of the '394 Patent in violation of 35 U.S.C. § 271(b). Through at least the
15 filing and service of the Complaint, Defendant has had knowledge of the '394 Patent
16 and the infringing nature of the Accused Products. Despite this knowledge of the
17 '394 Patent, Defendant continues to actively encourage and instruct its customers
18 and end users (for example, through user manuals and online instruction materials
19 on its website) to use the Accused Products in ways that directly infringe the '394
20 Patent. Defendant does so knowing and intending that its customers and end users
21 will commit these infringing acts. Defendant also continues to make, use, offer for
22 sale, sell, and/or import the Accused Products, despite its knowledge of the '394
23 Patent, thereby specifically intending for and inducing its customers to infringe the
24 '394 Patent through the customers' normal and customary use of the Accused
25 Products.

26 21. Defendant has also infringed, and continue to infringe, claims of the '394
27 Patent by offering to commercially distribute, commercially distributing, making,
28 and/or importing the Accused Products, which are used in practicing the process, or

1 using the systems, of the patent, and constitute a material part of the invention.
2 Defendant knows the components in the Accused Products to be especially made or
3 especially adapted for use in infringement of the patent, not a staple article, and not
4 a commodity of commerce suitable for substantial noninfringing use. Accordingly,
5 Defendant has been, and currently is, contributorily infringing the '394 Patent, in
6 violation of 35 U.S.C. § 271(c).

7 22. The Accused Products satisfy all claim limitations of claims of the '394
8 Patent. A claim chart comparing claim elements of the '394 Patent to representative
9 Accused Products, is attached as Exhibit 2.

10 23. By making, using, offering for sale, selling and/or importing into the
11 United States the Accused Products, Defendant has injured EcoFactor and is liable
12 for infringement of the '394 Patent pursuant to 35 U.S.C. § 271.

13 24. As a result of Defendant's infringement of the '394 Patent, EcoFactor is
14 entitled to monetary damages in an amount adequate to compensate for Defendant's
15 infringement, but in no event less than a reasonable royalty for the use made of the
16 invention by Counterclaim Defendant, together with interest and costs as fixed by
17 the Court.

18 25. Further, Defendant's infringing activities have injured and will continue
19 to injure EcoFactor, unless and until this Court enters an injunction prohibiting
20 further infringement of the '394 Patent, and, specifically, enjoining further
21 manufacture, use, sale, importation, and/or offers for sale that come within the scope
22 of the patent claims. EcoFactor and Google are direct competitors offering similar
23 services to overlapping customer channels. For example, EcoFactor offers an
24 advanced demand response feature to its utility and energy retailer customers.
25 Google competes in this same business, also offering demand response services to
26 utility and energy retailer customers, under the brand name "Rush Hour Rewards"—
27 which a jury has already found to infringe EcoFactor patent claims covering demand
28 response technology. *See EcoFactor, Inc. v. Google LLC*, Case No. 6:20-cv-00075,

1 Dkt. No. 215 (W.D. Tex. Feb. 10, 2022) (jury verdict finding infringement of U.S.
2 Patent No. 8,738,327). As another example, EcoFactor offers HVAC performance
3 monitoring services to its customers, and Google has also recently released a
4 performance monitoring feature that infringes the Asserted Patent and that directly
5 competes with EcoFactor’s domestic HVAC performance monitoring feature which
6 is offered for sale to the same customers and utility companies with respect to whom
7 Google offers for sale. Ex. 3 at 1 (EcoFactor web page); Ex. 4 at 4-5 (ITC confirming
8 in mid-2022 that EcoFactor has a domestic industry in the United States); Ex. 5
9 (Nevada Energy guide directing registrants to nve.ecofactor.com and noting that
10 “EcoFactor is our technology partner”); Ex. 6 (listing utility and energy retailer
11 customers, including Reliant and CenterPoint Energy, for whom Google offers
12 competitive smart thermostat technology services). This makes the parties direct
13 competitors. An injunction is warranted.

14 WILLFUL INFRINGEMENT

15 26. EcoFactor realleges and incorporates by reference the foregoing
16 paragraphs as if fully set forth herein.

17 27. Defendant had knowledge of EcoFactor’s ’394 Patent by at least the date
18 of filing of this Complaint in the Northern District of California.

19 28. Despite Defendant’s knowledge of EcoFactor’s Asserted Patents and its
20 patent portfolio, Defendant infringed and continues to infringe the Asserted Patent
21 with full and complete knowledge of the patents’ applicability to Defendant’s smart
22 thermostats and smart HVAC systems without taking a license and without a good
23 faith belief that the Asserted Patents are invalid and not infringed. Defendant’s
24 infringement occurred, and continues to occur, with knowledge of infringement and
25 objective recklessness, and/or with willful blindness to its infringement.

26 29. Defendant sold, and continues to sell, its Accused Products (*e.g.*, Google’s
27 Nest Thermostat and Nest Learning Thermostat Third Generation) to customers
28 despite its knowledge of EcoFactor’s Asserted Patents, such as on store.google.com.

1 Defendant also manufactured and imported into the United States, and continues to
2 do so, the Accused Products for sale and distribution to its customers, despite its
3 knowledge of EcoFactor's Asserted Patents.

4 30. Defendant's infringement of EcoFactor's Asserted Patents is egregious
5 because despite its knowledge of EcoFactor's Asserted Patents, Defendant
6 deliberately and flagrantly copied the invention claimed in the Asserted Patents and
7 implemented that patented invention in its Accused Products. Further, despite
8 Defendant's knowledge of the Asserted Patents, Defendant sold, offered for sale,
9 manufactured, and imported, the Accused Products—and continues to do so—
10 without investigating the scope of the Asserted Patent and without forming a good-
11 faith belief that its Accused Products do not infringe or that the Asserted Patent are
12 invalid. Defendant has not taken any steps to remedy its infringement of the Asserted
13 Patents (*e.g.*, by removing the Accused Products from its sales channels). Instead,
14 Defendant continues to sell its Accused Products to customers, such as its continued
15 sale of Nest Thermostat, for example. Defendant's behavior is egregious because it
16 engaged, and continues to engage, in misconduct beyond that of typical
17 infringement. For example, in a typical infringement, an infringer would investigate
18 the scope of the asserted patents and develop a good-faith belief that it does not
19 infringe the asserted patents or that the asserted patents are invalid before selling
20 (and continuing to sell) its accused products. An infringer would also remove its
21 accused products from its sales channels and discontinue further sales.

22 31. Thus, Defendant's infringement of the Asserted Patents is willful,
23 deliberate, and flagrant, entitling EcoFactor to increased damages under 35 U.S.C.
24 § 284 and to attorneys' fees and costs incurred in prosecuting this action under 35
25 U.S.C. § 285.

26 **ECOFACOR'S PRAYER FOR RELIEF**

27 WHEREFORE, Plaintiff EcoFactor, Inc. request that this Court enter:
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DATED: January 9, 2024

Respectfully submitted,

RUSS AUGUST & KABAT

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