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 17 ECOFACTOR, INC.

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.

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**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.

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