## IN THE UNITED STATES DISTRICT COURT FOR THE WESTERN DISTRICT OF TEXAS WACO DIVISION

ECOFACTOR, INC.,

Plaintiff,

v.

Case No. 6:20-cv-00075-ADA

GOOGLE LLC,

JURY TRIAL DEMANDED

Defendant.

ECOFACTOR, INC.,

Plaintiff,

v.

Case No. 6:20-cv-00078-ADA

ECOBEE, INC.,

JURY TRIAL DEMANDED

Defendant.

ECOFACTOR, INC.,

Plaintiff,

v.

VIVINT, INC.,

Defendant.

Case No. 6:20-cv-00080-ADA

JURY TRIAL DEMANDED

### **DEFENDANTS' OPENING CLAIM CONSTRUCTION BRIEF**



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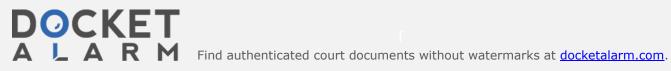
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## **TABLE OF EXHIBITS**

No.	Exhibit
1	Oct. 7, 2010 Office Action from prosecution history of U.S. Patent No. 8,180,492
2	Feb. 7, 2011 Response from prosecution history of U.S. Patent No. 8,180,492
3	Mar. 1, 2012 Response from prosecution history of U.S. Patent No. 8,180,492
4	Aug. 2, 2011 Response from prosecution history of U.S. Patent No. 8,180,492
5	Excerpts of Thomas G. Beckwith and Roy D. Marangoni Mechanical Measurements, 4 <sup>th</sup> ed.
6	Excerpts of "Merriam-Webster Dictionary, 10 <sup>th</sup> ed. (1999)"
7	Excerpts of "American Heritage Dictionary, 3d ed. (1993)"
8	U.S. Patent No. 5,977,964 to Williams, et al.
9	Excerpts of "Webster's II New College Dictionary, (2001)"
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12	Page from Merriam-Webster, https://www.merriam-webster.com/dictionary/user%20interface
13	Excerpts of "Webster's II New College Dictionary, (2001)"



Defendants Google LLC, ecobee, Inc., and Vivint, Inc. hereby submit their Opening Claim Construction Brief.

### I. Background on Asserted Patents

The four asserted patents generally cover management of HVAC systems. The claimed management features include determining whether someone is home to adjust temperatures, checking if an HVAC system is on or off, and handling requests to reduce energy usage.

### A. U.S. Patent No. 8,180,492 ("'492 Patent")

The '492 patent issued May 15, 2012 from an application filed July 13, 2009. The patent tries to solve the problem of adjusting home temperatures based on occupancy. While motion sensors "involve considerable expense" and "cannot reliably detect presence," the '492 patent is directed to detecting occupancy based on user interaction: "detecting the use of networked consumer electronics devices as indications of occupancy." '492 at Abstract, 3:1-15. Independent claims 1 (method) and 10 (system) are essentially identical and each recite steps for determining occupancy, prompting the user about changing temperature, and then keeping a non-occupied temperature setpoint in response to input overriding the proposed change in temperature.

### B. U.S. Patent No. 8,412,488 ("'488 Patent")

The '488 patent issued April 2, 2013 from an application filed March 1, 2012, and addresses the problem of checking if an HVAC system is on or off based on outside and inside temperatures. The patent "comprises systems and methods for estimating the rate of change in temperature inside a structure," in connection with "a system for offering peak demand reduction to electric utilities." '488 at Abstract, 1:22-25. The '488 patent purports to use the "relationship between the inside temperature and the outside temperature to determine whether the climate control system is 'on' or 'off." *Id.* at Abstract. The '488 patent specification discloses embodiments in which temperature measurements and calculations based on temperature data over



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