

UNITED STATES INTERNATIONAL TRADE COMMISSION  
WASHINGTON, D.C.

**In the Matter of**

**Certain Smart Thermostats, Load  
Control Switches and Components  
Thereof**

**Investigation No. 337-TA-\_\_\_\_\_**

**COMPLAINT UNDER SECTION 337 OF  
THE TARIFF ACT OF 1930, AS AMENDED**

**Complainant:**

Causam Enterprises, Inc.  
8480 Honeycutt Road  
Suite 200  
Raleigh, NC 27615  
Telephone: (919) 522-6943

**Counsel for Complainant:**

Christopher C. Campbell  
**KING AND SPALDING LLP**  
1650 Tysons Boulevard  
Suite 400  
McLean, VA 22102  
Telephone: (703) 245-1000

Jeffrey M. Telep  
Brian D. Hill  
Richard C. Lutz, Consultant  
**KING AND SPALDING LLP**  
1700 Pennsylvania Avenue N.W.  
Washington, DC 20006  
Phone: (202) 737-0500

Britton F. Davis  
Brian Eutermoser  
**KING AND SPALDING LLP**  
1401 Lawrence Street  
Suite 1900  
Denver, CO 80202  
Phone: (720) 535-2300

**Proposed Respondents:**

**Alarm.com Holdings, Inc.**  
8281 Greensboro Drive  
Suite 100  
Tysons, VA 22102  
USA  
Telephone: (877) 389-4033

**Alarm.com Inc.**  
8281 Greensboro Drive  
Suite 100  
Tysons, VA 22102  
USA  
Telephone: (877) 389-4033

**Ecobee, Inc.**  
25 Dockside Drive  
Suite 600  
Toronto, ON M5A 0B5  
Canada  
Telephone: (877) 932-6233

**EnergyHub, Inc.**  
41 Flatbush Ave.  
Suite 400A  
Brooklyn, New York 11217  
USA  
Telephone: (718) 522-7051

Abby L. Parsons  
**KING AND SPALDING LLP**  
1100 Louisiana Street  
Suite 4100  
Houston, TX 77002  
Phone: (713) 751-3200

John D. Roehrick  
**KING AND SPALDING LLP**  
633 West Fifth Street  
Suite 1600  
Los Angeles, CA 90071  
Phone: (213) 443-4355

Rahul Sarkar  
**KING AND SPALDING LLP**  
1185 Avenue of the Americas  
34<sup>th</sup> Floor  
New York, NY 10036  
Phone: (212) 556-2100

Noah Stid  
**KING AND SPALDING LLP**  
601 South California Avenue  
Suite 100  
Palo Alto, CA 94304  
Phone: (650) 422-6700

**Itron, Inc.**  
2111 N. Molter Road  
Liberty Lake, Washington 99019  
USA  
Telephone: (509) 924-9900

**Itron Distributed Energy Management, Inc.**  
2111 N. Molter Road  
Liberty Lake, Washington 99019  
USA  
Telephone: (509) 924-9900

**Resideo Smart Homes Technology (Tianjin)**  
Building 21  
Jinbin Development Area  
No. 156 Nanhai Road  
Teda, Tianjin 300457  
China  
Telephone: +86 400-166-0812

**Resideo Technologies, Inc.**  
901 E. 6<sup>th</sup> Steet  
Austin, TX 78702  
USA  
Telephone: (512) 726-3500

**Xylem Inc.**  
1 International Drive  
Rye Brook, NY 10573  
USA  
Telephone: (914) 323-5700

## TABLE OF CONTENTS

<b>I.</b>	<b>INTRODUCTION.....</b>	<b>1</b>
<b>II.</b>	<b>THE PARTIES.....</b>	<b>2</b>
A.	COMPLAINANT .....	2
B.	PROPOSED RESPONDENTS.....	3
1.	The Alarm.com Respondents.....	3
2.	ecobee, Inc. ....	4
3.	The Itron Respondents .....	5
4.	The Resideo Respondents.....	6
5.	Xylem Inc.....	6
<b>III.</b>	<b>THE TECHNOLOGY AND PRODUCTS AT ISSUE .....</b>	<b>7</b>
A.	THE TECHNOLOGY AT ISSUE .....	7
B.	THE PRODUCTS AT ISSUE .....	9
1.	The Alarm.com Accused Products .....	9
2.	The ecobee Accused Products .....	10
3.	The Itron Accused Products.....	11
4.	The Resideo Accused Products.....	12
5.	The Xylem Accused Products.....	13
<b>IV.</b>	<b>THE ASSERTED PATENTS AND NON-TECHNICAL DESCRIPTIONS OF THE INVENTIONS .....</b>	<b>13</b>
A.	OWNERSHIP OF THE ASSERTED PATENTS .....	13
B.	U.S. PATENT NO. 8,805,552 .....	14
C.	U.S. PATENT NO. 9,678,522 .....	15
D.	U.S. PATENT NO. 10,394,268 .....	16
E.	U.S. PATENT NO. 10,396,592 .....	16
F.	FOREIGN COUNTERPARTS OF THE ASSERTED PATENTS .....	17
G.	LICENSEES UNDER THE ASSERTED PATENTS .....	18
<b>V.</b>	<b>THE PROPOSED RESPONDENTS' UNLAWFUL AND UNFAIR ACTS .....</b>	<b>18</b>
A.	ALARM.COM.....	19
1.	Infringement of the '552 Patent .....	20
2.	Infringement of the '522 Patent .....	20
3.	Infringement of the '268 Patent .....	20
4.	Infringement of the '592 Patent .....	21
B.	ECOBEE .....	21

1.	Infringement of the '552 Patent .....	21
2.	Infringement of the '522 Patent .....	22
3.	Infringement of the '268 Patent .....	22
4.	Infringement of the '592 Patent .....	22
C.	ITRON .....	22
1.	Infringement of the '552 Patent .....	23
2.	Infringement of the '522 Patent .....	23
3.	Infringement of the '268 Patent .....	23
4.	Infringement of the '592 Patent .....	24
D.	RESIDEO.....	24
1.	Infringement of the '552 Patent .....	24
2.	Infringement of the '522 Patent .....	25
3.	Infringement of the '268 Patent .....	25
4.	Infringement of the '592 Patent .....	25
E.	XYLEM .....	25
1.	Infringement of the '552 Patent .....	26
2.	Infringement of the '522 Patent .....	26
3.	Infringement of the '268 Patent .....	26
4.	Infringement of the '592 Patent .....	27
<b>VI.</b>	<b>SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE .....</b>	<b>27</b>
A.	ALARM.COM.....	27
B.	ECOBEE.....	28
C.	ITRON .....	28
D.	RESIDEO.....	28
E.	XYLEM .....	29
<b>VII.</b>	<b>HARMONIZED TARIFF SCHEDULE NUMBERS .....</b>	<b>29</b>
<b>VIII.</b>	<b>RELATED LITIGATION.....</b>	<b>30</b>
<b>IX.</b>	<b>DOMESTIC INDUSTRY.....</b>	<b>30</b>
A.	PRODUCTS THAT PRACTICE THE ASSERTED PATENTS .....	31
B.	DOMESTIC INVESTMENTS IN THE UNITED STATES RELATING TO THE PRODUCTS THAT PRACTICE THE ASSERTED PATENTS .....	32
1.	Significant Investments in Plant and Equipment.....	33
2.	Significant Investments in Labor or Capital .....	35
3.	Substantial Investments in Research and Development .....	37
<b>X.</b>	<b>RELIEF REQUESTED .....</b>	<b>37</b>

## LIST OF EXHIBITS

Exhibit Number	Description
1	Certified Copy of U.S. Patent No. 8,805,552
2	Certified Copy of U.S. Patent No. 9,678,522
3	Certified Copy of U.S. Patent No. 10,394,268
4	Certified Copy of U.S. Patent No. 10,396,592
5	Certified Copy of Assignment for U.S. Patent No. 8,805,552 (I)
6	Certified Copy of Assignment for U.S. Patent No. 8,805,552 (II)
7	Certified Copy of Assignment for U.S. Patent No. 9,678,522
8	Certified Copy of Assignment U.S. Patent No. 10,394,268
9	Certified Copy of Assignment U.S. Patent No. 10,396,592
10	Amended Certificate of Incorporation of Causam Energy, Inc.
11C	CONFIDENTIAL Forbes, BCIP and Consert License Agreement
12	Infringement Claim Chart of U.S. Patent No. 8,805,552 by Alarm.com
13	Infringement Claim Chart of U.S. Patent No. 9,678,522 by Alarm.com
14	Infringement Claim Chart of U.S. Patent No. 10,394,268 by Alarm.com
15	Infringement Claim Chart of U.S. Patent No. 10,396,592 by Alarm.com
16	Infringement Claim Chart of U.S. Patent No. 8,805,552 by ecobee
17	Infringement Claim Chart of U.S. Patent No. 9,678,522 by ecobee
18	Infringement Claim Chart of U.S. Patent No. 10,394,268 by ecobee
19	Infringement Claim Chart of U.S. Patent No. 10,396,592 by ecobee
20	Infringement Claim Chart of U.S. Patent No. 8,805,552 by Itron
21	Infringement Claim Chart of U.S. Patent No. 9,678,522 by Itron
22	Infringement Claim Chart of U.S. Patent No. 10,394,268 by Itron

<b>Exhibit Number</b>	<b>Description</b>
23	Infringement Claim Chart of U.S. Patent No. 10,396,592 by Itron
24	Infringement Claim Chart of U.S. Patent No. 8,805,552 by Resideo
25	Infringement Claim Chart of U.S. Patent No. 9,678,522 by Resideo
26	Infringement Claim Chart of U.S. Patent No. 10,394,268 by Resideo
27	Infringement Claim Chart of U.S. Patent No. 10,396,592 by Resideo
28	Infringement Claim Chart of U.S. Patent No. 8,805,552 by Xylem
29	Infringement Claim Chart of U.S. Patent No. 9,678,522 by Xylem
30	Infringement Claim Chart of U.S. Patent No. 10,394,268 by Xylem
31	Infringement Claim Chart of U.S. Patent No. 10,396,592 by Xylem
32	2021-04-09 Sale of Alarm.com T3000
33	2021-04-09 Sale of ecobee SmartThermostat
34	2021-06-08 Sale of IntelliPEAK DirectLink
35	2021-04-09 Sale of Resideo T10
36	Sensus Load Control Module (LCM) Data Sheet “Made in Mexico” [Annotated]
37	Claim Chart Showing Domestic Industry of U.S. Patent No. 8,805,552 by Landis+Gyr
38	Claim Chart Showing Domestic Industry of U.S. Patent No. 9,678,522 by Landis+Gyr
39	Claim Chart Showing Domestic Industry of U.S. Patent No. 10,394,268 by Landis+Gyr
40	Claim Chart Showing Domestic Industry of U.S. Patent No. 10,396,592 by Landis+Gyr
41	ADC-T3000 Energy Star Certified
42	ADC-T3000 Find the Serial Number
43	ADC-T3000 Installation Guide

Exhibit Number	Description
44	ADC-T3000 Specification Sheet
45	Alarm.com Acquires EnergyHub for Home Energy Mgt
46	Alarm.com Troubleshooting Guide
47	CPS Energy, FY2018 DSM Program Evaluation
48	ecobee Application Programming Interface
49	ecobee Smart Energy Program Terms and Conditions
50	EnergyHub, BYOD Thermostats
51	EnergyHub, BYOT Fact Sheet
52	EnergyHub, C&I Fact Sheet
53	EnergyHub, Demand Resource Solution Overview
54	EnergyHub, Firm Load Dispatch
55	EnergyHub, Grid-edge DERMS
56	EnergyHub, Homepage
57	EnergyHub, Platform Overview
58	EnergyHub, Running C&I Programs with EnergyHub
59	eSmart Thermostat Program FAQ
60	Honeywell Home Developer Site, Demand Response Enrollment and Event Issuing
61	Mercury DERMS fact sheet
62	Mike Greb, Radio Thermostat
63	O'Leary, EnergyHub's New OpenBYOT Model
64	Press release, EnergyHub Unveils Mercury 3.0
65	Radio Thermostat Partners with EnergyHub
66	SC Edison, Smart Energy Program

Exhibit Number	Description
67	The Alarm.com Family
68	WiredShopper, RH and RC on Thermostat
69	ecobee and our Utility Partners
70	ecobee Energy, New Evaluation Report Proves ecobee Smart Thermostats Save
71	ecobee Installation with Pro PIN
72	ecobee Support, Installation with Isolation Relay
73	ecobee, A New Level of Comfort
74	ecobee, Acknowledge
75	ecobee, Community Energy Savings
76	ecobee, Compatible HVAC Systems
77	ecobee, Core Concepts
78	ecobee, DemandResponse Object
79	ecobee, Electricity Device Object
80	ecobee, Electricity Object
81	ecobee, GET List Demand Response
82	ecobee, GET Runtime Report
83	ecobee, GET Thermostat Summary (Polling)
84	ecobee, Load Management Solutions
85	ecobee, POST Demand Management
86	ecobee, POST Issue Demand Response
87	ecobee, Privacy Policy
88	ecobee, Thermostat Object
89	ecobee, Thermostat Optimization Pilot (Summary)



Exhibit Number	Description
90	ecobee, Thermostat Optimization Pilot
91	ecobee, Wi-Fi Enabled Smart Thermostats
92	ecobee SmartThermostat with voice control Installation Guide
93	ecobee SmartThermostat with voice control and ecobee4 Wiring Diagrams
94	AEIC, Demand Response Measurement and Verification
95	California Energy Commission, Residential Intelligent Energy Management Solution
96	Comverge Introduces Two-Way Energy Management Solutions
97	IntelliPEAK DirectLink WiFi
98	Itron, Demand Response and IoT
99	Itron, Getting More Out of Demand Management
100	Itron, Integrated Energy Forecasting Framework
101	Itron, IntelliMEASURE
102	Itron, IntelliPEAK DirectLink Spec Sheet
103	Itron, IntelliSOURCE Enterprise
104	Itron, IntelliSOURCE Express Summary
105	Itron, IntelliSOURCE Express
106	Itron, IntelliTEMP DirectLink
107	Itron, Load Control Product Information
108	Itron, Optimizing Demand Response Management Systems
109	NAPDR, Measurement and Verification
110	Apex Analytics, Resideo Optimization Report
111	Connected Savings, Connected Savings for Consumers
112	Connected Savings, Demand Response

Exhibit Number	Description
113	Connected Savings, EULA
114	Connected Savings, Frequently Asked Questions
115	Connected Savings, Intelligent Demand Side Management (By City)
116	Connected Savings, Intelligent Demand Side Management
117	Connected Savings, Privacy Policy
118	Insights Success, Honeywell to Offer Energy Management Software
119	Navigant, Integrated Distributed Energy Resources
120	Press Release, Honeywell Introduces Energy Management Software
121	Resideo Acquires Whisker Labs Technology
122	Resideo Pro, Professional Home Energy Management Solutions
123	Resideo Pro, T10 Pro Smart Thermostat
124	Resideo, Set and Forget
125	Smart Energy, Residential BYOT Demand Response
126	T10 Pro Smart Thermostat Product Sheet
127	Utility Dive, Honeywell Introduce Home Energy Management Software
128	Sensus, Conservation Voltage Reduction
129	Sensus, Control Peak Demand
130	Sensus, CVR Solution Brief
131	Sensus, Demand Response Demo
132	Sensus, Device Manager
133	Sensus, Flexnet Load Control Module (LCM) Data Sheet
134	Sensus, Introduction to Electric Device Manager
135	Sensus, Load Control Module Summary

<b>Exhibit Number</b>	<b>Description</b>
136	Sensus, RNI Electric Device Manager App Overview
137	Sensus, Smart Grid Analytics
138	Sensus, Upgrading Legacy DR Systems to FlexNet
139	Sensus, Voltage Insight Application
140	L410 PCT Spec Sheet
141	L430 PCT Spec Sheet
142	L530 RF Spec Sheet
143	L570 RF Spec Sheet
144	Landis+Gyr Releases Power Center 3.6
145	Landis+Gyr Releases Power Center 4.6
146	Landis+Gyr, Advanced Load Management
147	Landis+Gyr, Challenges and Solutions
148	Landis+Gyr, Command Center
149	Landis+Gyr, Demand Response and Load Management Software
150	Landis+Gyr, Load Management
151	Landis+Gyr, Peak Time Rewards
152	Landis+Gyr, Thinking Thermostats Smart Options for Utilities
153	Landis+Gyr, Addresses
154	Landis+Gyr, 2017 Financial Report
155	Landis+Gyr, 2018 Financial Report
156	Landis+Gyr, 2019 Financial Report
157	Landis+Gyr, 2020 Financial Report
158	Landis+Gyr, 2020 Annual Report

<b>Exhibit Number</b>	<b>Description</b>
159	Landis+Gyr, Offering Memorandum
160	Frost & Sullivan, EM Update 2017
161	Frost & Sullivan, EM Update 2019

**APPENDICES**

<b>Appendix</b>	<b>Description</b>
A1	Certified copy of the prosecution history of U.S. Patent No. 8,805,552
A2	Certified copy of the prosecution history of U.S. Patent No. 9,678,522
A3	Certified copy of the prosecution history of U.S. Patent No. 10,394,268
A4	Certified copy of the prosecution history of U.S. Patent No. 10,396,592
B1	Applicable Pages of Technical References cited in the prosecution history of U.S. Patent No. 8,805,552
B2	Applicable Pages of Technical References cited in the prosecution history of U.S. Patent No. 9,678,522
B3	Applicable Pages of Technical References cited in the prosecution history of U.S. Patent No. 10,394,268
B4	Applicable Pages of Technical References cited in the prosecution history of U.S. Patent No. 10,396,592

## I. INTRODUCTION

1. Complainant Causam Enterprises, Inc. (“Causam” or “Complainant”) files this Complaint pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337 (“Section 337”), based on the unlawful importation into the United States, the sale for importation into the United States, and/or the sale within the United States after importation of certain smart thermostats, load control switches, and components thereof that infringe valid and enforceable United States patents owned by Causam (the “Accused Products”).

2. The Complaint is directed to the Proposed Respondents’ Accused Products that infringe one or more claims of U.S. Patent No. 8,805,552 (“552 Patent”); U.S. Patent No. 9,678,522 (“522 Patent”); U.S. Patent No. 10,394,268 (“268 Patent”); and U.S. Patent No. 10,396,592 (“592 Patent”) (collectively, the “Asserted Patents”). Complainant asserts that the Proposed Respondents infringe at least one or more of the following claims of the Asserted Patents in violation of Section 337(a)(1)(B)(i) and 35 U.S.C. §§ 271(a), (b), and/or (c), either literally or under the doctrine of equivalents:

U.S. Patent No.	Asserted Claims <sup>1</sup>
8,805,552	<u>1</u> -9, 16, <u>19</u> -21, 23-28, <u>30</u>
9,678,522	<u>1</u> -8, 10, 13-14, <u>15</u> -17, 19-23, <u>25</u> -27, <u>28</u> -29
10,394,268	<u>1</u> -11, 13, <u>14</u> -16, 18-19
10,396,592	<u>1</u> -2, 8-9, 11, 13-14, 17

3. The proposed Respondents are Alarm.com Holdings, Inc., Alarm.com, Inc., and EnergyHub, Inc. (collectively, “Alarm.com”); ecobee, Inc. (“ecobee”); Itron, Inc. and Itron Distributed Energy Management, Inc. (collectively, “Itron”); Resideo Technologies, Inc. and

---

<sup>1</sup> Independent claims are separately identified in bold and underlined.

Resideo Smart Homes Technology (Tianjun) (collectively, “Resideo”); and Xylem Inc. (“Xylem”) (collectively, the “Proposed Respondents”).

4. On information and belief, the Accused Products are manufactured and/or sold for importation into the United States, imported into the United States, and/or sold after importation into the United States by or on behalf of the Proposed Respondents.

5. An industry as required by 19 U.S.C. §§ 1337(a)(2) and (3) exists in the United States relating to articles protected by the Asserted Patents.

6. Complainant seeks as relief permanent limited exclusion orders prohibiting entry into the United States of the Proposed Respondents’ infringing products, including each of the Accused Products, which infringe one or more claims of the Asserted Patents.

7. Complainant also seeks permanent cease and desist orders prohibiting the Proposed Respondents from importing, admitting or withdrawing from a foreign trade zone, marketing, advertising, demonstrating, warehousing inventory of, distributing, offering for sale, selling, licensing, repairing, packaging, repackaging, bundling, updating, soliciting U.S. agents or distributors for, or aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer, or distribution of its infringing products.

8. Complainant also requests that the Commission require an appropriate bond for any activities otherwise covered by the permanent exclusion order and/or permanent cease and desist orders during the Presidential review period.

## **II. THE PARTIES**

### **A. Complainant**

9. Causam is a Delaware corporation having its principal place of business at 8480 Honeycutt Road, Suite 200, Raleigh, NC 27615.

10. Causam was founded by Joseph W. Forbes, an innovative entrepreneur with a history of creating successful technology companies. Mr. Forbes joined BellSouth in 1989 and trained at Bell Labs in advanced wireless and telecommunications infrastructure. Mr. Forbes was subsequently recruited to join Dial Call (subsequently Nextel) in 1994 and was one of their early employees. In 1995, Mr. Forbes left Nextel to start his own engineering firm, Galaxy Engineering Services, where he ultimately employed over 300 employees with annual revenues in excess of \$65 million.

11. In 2007, Mr. Forbes founded Consert, Inc., a Demand Response hardware and software company. At Concert, Mr. Forbes was a pioneer in the early stages of smart grid technology and developed what would become the foundation of Demand Response. Consert was ultimately acquired by Toshiba Corporation in January 2013, leading Mr. Forbes to establish Causam later that same year.<sup>2</sup> Causam was established to revolutionize how power is bought and sold, to empower consumers to lower their power bills, and to support a cleaner power grid.

## **B. Proposed Respondents**

### **1. The Alarm.com Respondents**

#### **a. Alarm.com Holdings, Inc.**

12. On information and belief, Alarm.com Holdings, Inc. is a Delaware corporation with its principal place of business at 8281 Greensboro Drive, Suite 100, Tysons, Virginia 22102.

13. On information and belief, Alarm.com Holdings, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the

---

<sup>2</sup> Causam was first incorporated on October 10, 2013 under the name Causam Energy, Inc. On January 18, 2018, Causam Energy, Inc. was renamed Causam Enterprises, Inc. See **Exhibit 10**.



United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

**b. Alarm.com, Inc.**

14. On information and belief, Alarm.com, Inc. is a Delaware corporation with its principal place of business at 8281 Greensboro Drive, Suite 100, Tysons, Virginia 22102.

15. On information and belief, Alarm.com, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

**c. EnergyHub, Inc.**

16. On information and belief, EnergyHub, Inc. is a Delaware corporation with its principal place of business at 41 Flatbush Ave., Suite 400A, Brooklyn, New York, 11217-1160. On information and belief, EnergyHub, Inc. is a wholly owned subsidiary of Alarm.com.

17. On information and belief, EnergyHub, Inc. imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

**2. ecobee, Inc.**

16. On information and belief, ecobee, Inc. is a corporation existing under the federal laws of Canada with its principal place of business at 25 Dockside Drive, Suite 600, Toronto, Ontario, M5A OB5, Canada.

17. On information and belief, ecobee, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States,

imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

**3. The Itron Respondents**

**a. Itron, Inc.**

18. On information and belief, Itron, Inc. is a Delaware corporation with its principal place of business at 2111 N. Molter Road, Liberty Lake, Washington, 99019.

19. On information and belief, Itron, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

**b. Itron Distributed Energy Management, Inc.**

20. On information and belief, Itron Distributed Energy Management, Inc. is a Delaware corporation with its principal place of business at 2111 N. Molter Road, Liberty Lake, Washington, 99019. On information and belief, Itron Distributed Energy Management, Inc. was previously known as Comverge, Inc. and is a wholly owned subsidiary of Itron, Inc.

21. On information and belief, Itron Distributed Energy Management, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

#### **4. The Resideo Respondents**

##### **a. Resideo Technologies, Inc.**

22. On information and belief, Resideo Technologies, Inc. is a Delaware corporation with its principal place of business at 901 E 6<sup>th</sup> Street, Austin, TX 78702.

23. On information and belief, Resideo Technologies, Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

##### **b. Resideo Smart Homes Technology (Tianjin)**

24. On information and belief, Resideo Smart Homes Technology (Tianjin) is a corporation existing under the laws of the People's Republic of China with its principal place of business at Building 30, No. 156 Nanhai Road, Tianjin Province, 300457, China.

25. On information and belief, Resideo Smart Homes Technology (Tianjin) manufactures in China and sells for importation into the United States, and imports into the United States, the accused smart thermostats, load control switches, and components thereof.

#### **5. Xylem Inc.**

26. On information and belief, Xylem Inc. is an Indiana corporation with a principal place of business at 1 International Drive, Rye Brook, NY 10573.

27. On information and belief, Xylem Inc. designs and manufactures and/or has manufactured on its behalf outside of the United States, sells for importation into the United States, imports into the United States, and/or sells within the United States after importation the accused smart thermostats, load control switches, and components thereof.

### **III. THE TECHNOLOGY AND PRODUCTS AT ISSUE**

#### **A. The Technology At Issue**

28. To ensure the uninterrupted operation of electric power grids, serving utilities are required by regulatory authorities, such as the Federal Regulatory Energy Commission (“FERC”) and the North American Electric Reliability Corporation (“NERC”), to maintain substantial “backup” stores of electric power known as Operating Reserves. In periods of peak demand, such as heat waves, the supply of power actively flowing across an electric grid is often insufficient to satisfy that demand. In response, Operating Reserves are employed to generate additional power supply and ensure that their customers do not suffer brownouts or blackouts.

29. Because demand for power is highly elastic, but its supply necessarily finite, techniques for efficiently allocating Operating Reserves emphasize reducing demand rather than increasing supply. One such widely used technique is Demand Response, which operates by incentivizing customers, through discounts on utility bills, to voluntarily reduce their consumption of power during periods of peak demand. For example, on hot summer days, customers who have signed up for a utility’s Demand Response program are able to raise the temperature of their homes while they are away at work. In exchange, such customers receive discounts proportional to the amount of power they have reduced, and thus the additional reserve capacity they have generated. The aggregate reduction of demand achieved by such Demand Response programs often eliminates the need to build additional, expensive, and environmentally hazardous electricity generation capacity.

30. At the time of the Asserted Patents, however, Demand Response programs had a severe impediment: the “one-way” and incipient “two-way” load control systems deployed to implement such programs were incapable of precisely measuring by how much any individual customer had reduced its power consumption, and therefore prevented determination of how much

additional power reserve individual customers had generated. This imprecision made it difficult, if not impossible, to accurately estimate the Operating Reserves remaining, and to adequately compensate customers for generating those reserves.

31. “One-way” systems employed load control devices, such as RF-controlled relay switches attached to a customer’s air conditioner, that were capable only of sending rather than receiving. With no “return path” from the load control device back to the control center, and no ability to analyze, measure and verify the actual power consumed by customers, such one-way architectures were “highly inefficient for measuring the actual load shed to the serving utility.” *See, e.g., Exhibit 2* at 2:7-17, 1:46-52.

32. Similarly, although the incipient “two-way” systems extant at the time of Asserted Patents were able to transmit some data back to “host processors,” they disclosed no mechanism to “track[] or accumulate[]” the “power saved” on a “per customer or per utility basis for future use by the utility.” *See, e.g., id.* at 3:20-28.

33. Seeking to address the imprecision of prior Demand Response systems, Causam pioneered a power management architecture capable of actively managing, measuring, and verifying reductions of power on a per-customer basis. As disclosed in the Asserted Patents, Causam’s architecture employs a “load management server” to actively monitor, control, and measure the power consumed by, “power consuming devices,” such as HVAC units, air conditioning (“A/C”) units, furnaces, boilers, pool pumps, hot water heaters, etc. Internet-enabled “two-way” load control devices, such as smart thermostats, smart meters, and digital control units, provide real-time control and verification over “power consuming devices” and/or take real-time measurements of the power consumed by each monitored “power consuming device,” and send back those verifications and measurements to the load management server for immediate

aggregation and analysis. *See, e.g., id.* at 7:8-29. “When the serving utility needs more power than it is currently able to supply,” *i.e.* during a Demand Response event, Causam’s power management architecture is able to “automatically adjust[] the power distribution by turning off specific loads on an individual subscriber basis.” *Id.* Furthermore, “[b]ecause the amount of power consumed by each specific” power-consuming device “is known,” Causam’s architecture “can determine precisely which loads to turn off and track[] the power savings generated by each customer as a result of this short-term outage.” *Id.*

34. Finally, Causam’s power management architecture translates the power savings generated by each customer into a “power supply value,” (“PSV”), which “may be provided in units of electrical power flow, monetary equivalent, and combinations thereof,” *Id.* at 7:40-60. That PSV enables Causam’s architecture to precisely track how much additional power supply customers have generated, and the operating reserves remaining.

## **B. The Products at Issue**

35. Pursuant to 19 C.F.R §§ 210.10(b)(1) and 210.12(a)(12), the Accused Products are Respondents’ smart thermostats and load control switches with Demand Response functionality.

### **1. The Alarm.com Accused Products**

36. The Alarm.com Accused Products include all Alarm.com smart thermostats having Demand Response functionality and/or are compatible with the EnergyHub Mercury DERMS Platform.

37. Known Alarm.com Accused Products include the Alarm.com Smart Thermostat; the ADC-T2000; the ADC-T3000; and the Alarm.com Smart Thermostat B36-T10.

38. An example of an Alarm.com Accused Product, the Alarm.com ADC-T3000 Smart Thermostat, is shown below.



**Exhibit 44** (ADC-T3000 Specification Sheet).

## **2. The ecobee Accused Products**

39. The ecobee Accused Products include all ecobee smart thermostats having Demand Response functionality and/or compatible with eco+ software, including new and refurbished products sold directly by ecobee.

40. Known ecobee Accused Products include the SmartThermostat with voice control; the ecobee3 lite; the Smart Thermostat with Whole Home Sensors; the ecobee3; and the ecobee4.

41. An example of an ecobee Accused Product, the ecobee SmartThermostat with voice control, is shown below.



**Exhibit 91** (ecobee, Wi-Fi Enabled Smart Thermostats).

### 3. The Itron Accused Products

42. The Itron Accused Products include all Itron smart thermostats and load control switches having Demand Response functionality and/or compatible with Itron's IntelliSOURCE Enterprise and IntelliSOURCE Express software.

43. Known Itron Accused Products include the IntelliPEAK 700; the IntelliTEMP DirectLink; the IntelliPEAK DirectLink; the Commercial Load Control Device; the Programmable Communicating Thermostat; the Programmable Communicating Thermostat - Aprilaire Model TBZ00-8521-A; the Water Heater and Pool Pump Switch with measurement and verification; and the A/C Cycling Switch with measurement and verification.

44. An example of an Itron Accused Product, the IntelliPEAK DirectLink, is shown below.



**Exhibit 107** (Itron, Load Control Product Information).



#### 4. The Resideo Accused Products

45. The Resideo Accused Products include all Resideo smart thermostats having Demand Response functionality.

46. Known Resideo Accused Products include the Wi-Fi Smart Color Thermostat; the Wi-Fi 7-Day Programmable Thermostat; the Wi-Fi 7-Day Programmable Touchscreen Thermostat; the Wi-Fi 9000 Color Touchscreen Thermostat; the 9000 Smart Thermostat; the 7-Day Programmable Smart Thermostat; the VisionPro 8000 Wi-Fi Programmable Thermostat; the Wi-Fi FocusPro; the Round Smart Thermostat; the T10 Pro Smart Thermostat; the T9 Smart Thermostat; the T6 Pro Smart Thermostat; the T6 Pro Z-Wave Thermostat; the T5+ Smart Thermostat; and the Prestige® IAQ 2.0.

47. An example of a Resideo Accused Product, the T10 Pro Smart Thermostat, is shown below.



**Exhibit 123** (Resideo Pro, T10 Pro Smart Thermostat).



**B. U.S. Patent No. 8,805,552**

52. The '552 Patent, titled "Method and apparatus for actively managing consumption of electric power over an electric power grid," issued on August 12, 2014. Mr. Joseph W. Forbes, Jr. is the sole inventor of the '552 Patent. The '552 Patent issued from U.S. Patent App. No. 13/463,761, filed on May 3, 2012, and expires on June 4, 2028.

53. A certified copy of the '552 Patent is attached as **Exhibit 1**.

54. A certified copy of each assignment for the '552 Patent is attached as **Exhibit 5** and **6**.

55. A certified copy of the prosecution history of the '552 Patent and copies of the applicable pages of each technical reference cited in the '552 Patent and its prosecution history are included in **Appendices A1** and **B1**, respectively.

56. The '552 Patent has 42 claims, 5 of which are independent claims. Complainant is asserting claims 1-9, 16, 19-21, 23-28, and 30.

57. Per 19 C.F.R. § 210.12, the following is a plain English description of the patented technology of the '552 Patent. The '552 Patent relates to the use of a client device to manage electric power on an electric power grid. The client device receives power control messages relating to managing power flow within an electric power grid from a load management server. The power control messages sent by the load management server are responsive to power reduction requests issued by a control center. The '552 Patent further relates to one or more controllable devices that enable or disable a power flow over the electric grid to at least one power consuming device. Based upon the reduction in consumed power achieved by the client device and controllable devices managing power flow to power consuming devices such as HVAC units, a PSV corresponding to the reduction in consumed power is generated at the control center.

**C. U.S. Patent No. 9,678,522**

58. The '522 Patent, titled "Method and apparatus for actively managing consumption of electric power over an electric power grid," issued on June 13, 2017. Mr. Joseph W. Forbes, Jr. is the sole inventor of the '522 Patent. The '522 Patent from U.S. Patent App. No. 15/456,306, filed on August 11, 2014, and expires on June 4, 2028.

59. A certified copy of the '522 Patent is attached as **Exhibit 2**.

60. A certified copy of the assignment for the '522 Patent is attached as **Exhibit 7**.

61. A certified copy of the prosecution history of the '522 Patent and copies of the applicable pages of each technical reference cited in the '522 Patent and its prosecution history are included in **Appendices A2** and **B2**, respectively.

62. The '522 Patent has 29 claims, 4 of which are independent claims. Complainant is asserting claims 1-8, 10, 13-17, 19-23, and 25-29.

63. Per 19 C.F.R. § 210.12, the following is a plain English description of the patented technology of the '522 Patent. The '522 Patent relates to the use of a client device to manage electric power on an electric power grid. The client device receives power control messages relating to managing power flow within an electric power grid from a load management server. The power control messages sent by the load management server are responsive to "power reduction requests" issued by a control center. The '522 Patent further relates to one or more controllable devices that enable or disable a power flow over the electric grid to at least one power consuming device. Based upon the reduction in consumed power achieved by the client device and controllable device managing power flow to power consuming devices such as HVAC units, a PSV corresponding to the reduction in consumed power is generated.

**D. U.S. Patent No. 10,394,268**

64. The '268 Patent, titled "Method and apparatus for actively managing consumption of electric power over an electric power grid," issued on August 27, 2019. Mr. Joseph W. Forbes, Jr. is the sole inventors of the '268 Patent. The '268 Patent issued from U.S. Patent App. No. 15/618,981, filed on June 9, 2017, and expires on January 7, 2028.

65. A certified copy of the '268 Patent is attached as **Exhibit 3**.

34. A certified copy of the assignment for the '268 Patent is attached as **Exhibit 8**.

35. A certified copy of the prosecution history of the '268 Patent and copies of the applicable pages of each technical reference cited in the '268 Patent and its prosecution history are included in **Appendices A3** and **B3**, respectively.

66. The '268 Patent has 19 claims, 2 of which are independent claims. Complainant is asserting claims 1-11 and 13-16, and 18-19.

67. Per 19 C.F.R. § 210.12, the following is a plain English description of the patented technology of the '268 Patent. The '268 Patent relates to the use of a client device to manage electric power on an electric power grid. The client device receives power control messages from a remote load management server. The power control message received from the remote load management server is responsive to a power reduction request. The '268 Patent further relates to one or more controllable devices that enable or disable flow of electric power to at least one power consuming device. Based upon the reduction in consumed power achieved by the client device and controllable devices managing power flow to power consuming devices such as HVAC units, a measurement and verification data corresponding to the reduction in consumed power is generated.

**E. U.S. Patent No. 10,396,592**

68. The '592 Patent, titled "System and method for estimating and providing dispatchable operating reserve energy capacity through use of active load management," issued on

August 27, 2019. Mr. Joseph W. Forbes, Jr. is the sole inventor of the '592 Patent. The '592 Patent issued from U.S. Patent App. No. 15/895,909, filed on May 12, 2017, and expires on February 2, 2028.

69. A certified copy of the '592 Patent is attached as **Exhibit 4**.

70. A certified copy of the assignment for the '592 Patent is attached as **Exhibit 9**.

71. A certified copy of the prosecution history of the '592 Patent and copies of the applicable pages of each technical reference cited in the '592 Patent and its prosecution history are included in **Appendices A4** and **B4**, respectively.

72. The '592 Patent has 20 claims, 2 of which are independent claims. Complainant is asserting claims 1-2, 8-9, 11, 13-14, and 17.

73. Per 19 C.F.R. § 210.12, the following is a plain English description of the patented technology of the '592 Patent. The '592 Patent relates to the use of a client device to manage power on an electric power grid. The '592 Patent further relates to a client device, a controllable device, and a power consuming device configured in a network communication. The client device sends power control instructions to controllable devices to control power flow from the electric power grid to power consuming devices, such as HVAC units. There is a power reduction of the power consuming device based on revenue grade metrology and confirmed by measurement and verification. The actual value of this power reduction is a curtailment value that provides operating reserves for the electric power grid.

#### **F. Foreign Counterparts of the Asserted Patents**

74. Pursuant to Commission Rule 210.12(a)(9)(v), there are no other foreign patents issued or foreign patent applications pending, filed, abandoned, withdrawn, or rejected corresponding to the Asserted Patents.

**G. Licensees Under the Asserted Patents**

75. There are no licensees to the Asserted Patents other than the Domestic Industry licensee relied upon herein.

**V. THE PROPOSED RESPONDENTS' UNLAWFUL AND UNFAIR ACTS**

76. The Proposed Respondents have engaged in unfair trade practices, including the sale for importation, importation, and/or sale after importation of certain smart thermostat systems, load control switches, and components thereof, that infringe the asserted claims of the Asserted Patents. These activities by the Proposed Respondents constitute a violation of Section 337.

77. Causam asserts that Proposed Respondents directly infringe, literally or under the doctrine of equivalents, actively induce the infringement of, and/or contributorily infringe one or more asserted claims of the Asserted Patents. The sections that follow identify the claims asserted against each Proposed Respondent. Discovery may reveal that the Accused Products and/or Proposed Respondents infringe additional claims of the Asserted Patents.

78. The infringement allegations contained in this Complaint include the Proposed Respondents' (i) direct infringement of the asserted claims (literally and/or under the doctrine of equivalents); (ii) infringement by inducement by exhibiting an affirmative intent to cause direct infringement of the asserted claims, and/or (iii) contributory infringement by knowingly selling products or components thereof without substantial noninfringing uses that are the same or especially made or especially adapted for use in an infringement of the asserted claims.

79. The Proposed Respondents have been given notice of their infringement by, among other things, the filing and service of the District Court Complaints described in Section VIII, *infra*.

80. The Proposed Respondents have induced, and continue to induce, others to infringe the asserted claims. The Proposed Respondents have taken active steps to encourage and facilitate

direct infringement by others, such as sellers, distributors, and users of the Accused Products, with knowledge of infringement, such as by contracting for the distribution of the Accused Products, by marketing the Accused Products, and by creating and/or distributing instructions on a website, user manuals, white papers, datasheets, marketing materials, and/or similar materials with instructions on using the Accused Products in an infringing manner. The use of the Accused Products in their ordinary and customary fashion results in infringement of the asserted claims.

81. The Proposed Respondents have contributorily infringed, and continue to contributorily infringe, the asserted claims. The Proposed Respondents have sold for importation into the United States, offered for sale within the United States, and/or imported into the United States Accused Products that embody a material part of the claimed inventions, that are known by Proposed Respondents to be specially made or specially adapted for use in an infringing manner and that are not staple articles or commodities suitable for substantial noninfringing use.

**A. Alarm.com**

82. On information and belief, the Alarm.com Accused Products are specifically designed, and especially made and adapted to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The Alarm.com Accused Products are imported into the United States with this infringing design. The Alarm.com Accused Products are then installed and used in the United States in users' homes according to Alarm.com's design and instructions.

83. On information and belief, Alarm.com actively encourages users to use the Alarm.com Accused Products in the normal and intended manner, and according to Alarm.com's design and instructions, which infringes certain claims of the Asserted Patents. The Alarm.com Accused Products are not staple articles or commodities suitable for substantial noninfringing use. Thus, these acts each constitute an unlawful and unfair act.



### **1. Infringement of the '552 Patent**

84. Alarm.com directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-9, 16, 19-21, 23-28, and 30 of the '552 Patent with respect to the Alarm.com Accused Products.

85. A claim chart showing infringement of exemplary independent claims 1, 19, and 30 of the '552 Patent by the Alarm.com Accused Products is attached as **Exhibit 12**.

### **2. Infringement of the '522 Patent**

86. Alarm.com directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-8, 10, 13-17, 19-23, and 25-29 of the '522 Patent with respect to the Alarm.com Accused Products.

87. A claim chart showing infringement of exemplary independent claims 1, 15, 25, and 28 of the '522 Patent by the Alarm.com Accused Products is attached as **Exhibit 13**.

### **3. Infringement of the '268 Patent**

88. Alarm.com directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-11, 13-16, and 18-19 of the '268 Patent with respect to the Alarm.com Accused Products.

89. A claim chart showing infringement of exemplary independent claims 1 and 14 of the '268 Patent by the Alarm.com Accused Products is attached as **Exhibit 14**.

#### **4. Infringement of the '592 Patent**

90. Alarm.com directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-2, 8-9, 11, 13-14, and 17 of the '592 Patent with respect to the Alarm.com Accused Products.

91. A claim chart showing infringement of exemplary independent claim 1 of the '592 Patent by the Alarm.com Accused Products is attached as **Exhibit 15**.

#### **B. ecobee**

92. On information and belief, the ecobee Accused Products are specifically designed, and especially made and adapted, to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The ecobee Accused Products are imported into the United States with this infringing design. The ecobee Accused Products are then installed and used in the United States in users' homes according to ecobee's design and instructions.

93. On information and belief, ecobee actively encourages users to use the ecobee Accused Products in the normal and intended manner, and according to ecobee's design and instructions, which infringes certain claims of the Asserted Patents. The ecobee Accused Products are not staple articles or commodities suitable for substantial non-infringing use. Thus, these acts each constitute an unlawful and unfair act.

#### **1. Infringement of the '552 Patent**

94. Ecobee directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-9, 16, 19-21, 23-28, and 30 of the '552 Patent with respect to the ecobee Accused Products.

95. A claim chart showing infringement of exemplary independent claims 1, 19, and 30 of the '552 Patent by the ecobee Accused Products is attached as **Exhibit 16**.

## **2. Infringement of the '522 Patent**

96. Ecobee directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-8, 10, 13-17, 19-23, and 25-29 of the '522 Patent with respect to the ecobee Accused Products.

97. A claim chart showing infringement of exemplary independent claims 1, 15, 25, and 28 of the '522 Patent by the ecobee Accused Products is attached as **Exhibit 17**.

## **3. Infringement of the '268 Patent**

98. Ecobee directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-11, 13-16, and 18-19 of the '268 Patent with respect to the ecobee Accused Products.

99. A claim chart showing infringement of exemplary independent claims 1 and 14 of the '268 Patent by the ecobee Accused Products is attached as **Exhibit 18**.

## **4. Infringement of the '592 Patent**

100. Ecobee directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-2, 8-9, 11, 13-14, and 17 of the '592 Patent with respect to the ecobee Accused Products.

101. A claim chart showing infringement of exemplary independent claim 1 of the '592 Patent by the ecobee Accused Products is attached as **Exhibit 19**.

## **C. Itron**

102. On information and belief, the Itron Accused Products are specifically designed, and especially made and adapted, to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The Itron Accused Products are imported into the United States with this infringing design. The Itron Accused Products are then installed and used in the United States in users' homes according to Itron's design and instructions.

103. On information and belief, Itron actively encourages users to use the Itron Accused Products in the normal and intended manner, and according to Itron's design and instructions, which infringes certain claims of the Asserted Patents. The Itron Accused Products are not staple articles or commodities suitable for substantial non-infringing use. Thus, these acts each constitute an unlawful and unfair act.

### **1. Infringement of the '552 Patent**

104. Itron directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-9, 16, 19-21, 23-28, and 30 of the '552 Patent with respect to the Itron Accused Products.

105. A claim chart showing infringement of exemplary independent claims 1, 19, and 30 of the '552 Patent by the Itron Accused Products is attached as **Exhibit 20**.

### **2. Infringement of the '522 Patent**

106. Itron directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-8, 10, 13-17, 19-23, and 25-29 of the '522 Patent with respect to the Itron Accused Products.

107. A claim chart showing infringement of exemplary independent claims 1, 15, 25, and 28 of the '522 Patent by the Itron Accused Products is attached as **Exhibit 21**.

### **3. Infringement of the '268 Patent**

108. Itron directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-11, 13-16, and 18-19 of the '268 Patent with respect to the Itron Accused Products.

109. A claim chart showing infringement of exemplary independent claims 1 and 14 of the '268 Patent by the Itron Accused Products is attached as **Exhibit 22**.

#### **4. Infringement of the '592 Patent**

110. Itron directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-2, 8-9, 11, 13-14, and 17 of the '592 Patent with respect to the Itron Accused Products.

111. A claim chart showing infringement of exemplary independent claim 1 of the '592 Patent by the Itron Accused Products is attached as **Exhibit 23**.

#### **D. Resideo**

112. On information and belief, the Resideo Accused Products are specifically designed, and especially made and adapted, to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The Resideo Accused Products are imported into the United States with this infringing design. The Resideo Accused Products are then installed and used in the United States in users' homes according to Resideo's design and instructions.

113. On information and belief, Resideo actively encourages users to use the Resideo Accused Products in the normal and intended manner, and according to Resideo's design and instructions, which infringes certain claims of the Asserted Patents. The Resideo Accused Products are not staple articles or commodities suitable for substantial non-infringing use. Thus, these acts each constitute an unlawful and unfair act.

#### **1. Infringement of the '552 Patent**

114. Resideo directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-9, 16, 19-21, 23-28, and 30 of the '552 Patent with respect to the Resideo Accused Products.

115. A claim chart showing infringement of exemplary independent claims 1, 19, and 30 of the '552 Patent by the Resideo Accused Products is attached as **Exhibit 24**.

## **2. Infringement of the '522 Patent**

116. Resideo directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-8, 10, 13-17, 19-23, and 25-29 of the '522 Patent with respect to the Resideo Accused Products.

117. A claim chart showing infringement of exemplary independent claims 1, 15, 25, and 28 of the '522 Patent by the Resideo Accused Products is attached as **Exhibit 25**.

## **3. Infringement of the '268 Patent**

118. Resideo directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-11, 13-16, and 18-19 of the '268 Patent with respect to the Resideo Accused Products.

119. A claim chart showing infringement of exemplary independent claims 1 and 14 of the '268 Patent by the Resideo Accused Products is attached as **Exhibit 26**.

## **4. Infringement of the '592 Patent**

120. Resideo directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-2, 8-9, 11, 13-14, and 17 of the '592 Patent with respect to the Resideo Accused Products.

121. A claim chart showing infringement of exemplary independent claim 1 of the '592 Patent by the Resideo Accused Products is attached as **Exhibit 27**.

## **E. Xylem**

122. On information and belief, the Xylem Accused Products are specifically designed, and especially made and adapted, to infringe claims of the Asserted Patents and to embody a material part of the claimed inventions. The Xylem Accused Products are imported into the United States with this infringing design. The Xylem Accused Products are then installed and used in the United States in users' homes according to Xylem's design and instructions.

123. On information and belief, Xylem actively encourages users to use the Xylem Accused Products in the normal and intended manner, and according to Xylem's design and instructions, which infringes certain claims of the Asserted Patents. The Xylem Accused Products are not staple articles or commodities suitable for substantial non-infringing use. Thus, these acts each constitute an unlawful and unfair act.

### **1. Infringement of the '552 Patent**

124. Xylem directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-9, 16, 19-21, 23-28, and 30 of the '552 Patent with respect to the Xylem Accused Products.

125. A claim chart showing infringement of exemplary independent claims 1, 19, and 30 of the '552 Patent by the Xylem Accused Products is attached as **Exhibit 28**.

### **2. Infringement of the '522 Patent**

126. Xylem directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-8, 10, 13-17, 19-23, and 25-29 of the '522 Patent with respect to the Xylem Accused Products.

127. A claim chart showing infringement of exemplary independent claims 1, 15, 25, and 28 of the '522 Patent by the Xylem Accused Products is attached as **Exhibit 29**.

### **3. Infringement of the '268 Patent**

128. Xylem directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-11, 13-16, and 18-19 of the '268 Patent with respect to the Xylem Accused Products.

129. A claim chart showing infringement of exemplary independent claims 1 and 14 of the '268 Patent by the Xylem Accused Products is attached as **Exhibit 30**.

#### **4. Infringement of the '592 Patent**

130. Xylem directly infringes, contributes to the infringement of, and/or induces the infringement of at least claims 1-2, 8-9, 11, 13-14, and 17 of the '592 Patent with respect to the Xylem Accused Products.

131. A claim chart showing infringement of exemplary independent claim 1 of the '592 Patent by the Xylem Accused Products is attached as **Exhibit 31**.

#### **VI. SPECIFIC INSTANCES OF UNFAIR IMPORTATION AND SALE**

132. As stated above, on information and belief, the Proposed Respondents manufacture and/or have manufactured outside of the United States, sell for importation into the United States, import into the United States, and/or sell within the United States after importation smart thermostats, load control switches, and components thereof, including the Accused Products.

##### **A. Alarm.com**

133. The Alarm.com Accused Products are manufactured outside of the United States and sold for importation into the United States, imported into the United States, and/or sold within the United States after importation by Alarm.com and/or its authorized agents.

134. For example, **Exhibit 32** is a receipt showing the April 9, 2021 purchase of an Alarm.com T3000 Smart Thermostat for delivery to an address in the United States. **Exhibit 32** also contains photograph(s) of those products and products' packaging, delivered to an address in the United States, identifying China as the country of origin demonstrating that the product was imported into the United States.



**B. ecobee**

135. The ecobee Accused Products are manufactured outside of the United States and sold for importation into the United States, imported into the United States, and/or sold within the United States after importation by ecobee and/or its authorized agents.

136. For example, **Exhibit 33** is a receipt showing the April 9, 2021 purchase of an ecobee Smart Thermostat with Voice Control for delivery to an address in the United States. **Exhibit 33** also contains photograph(s) of those products and products' packaging, delivered to an address in the United States, identifying Malaysia as the country of origin demonstrating that the product was imported into the United States.

**C. Itron**

137. The Itron Accused Products are manufactured outside of the United States and sold for importation into the United States, imported into the United States, and/or sold within the United States after importation.

138. For example, **Exhibit 34** is a receipt showing the June 8, 2021 purchase of a Comverge IntelliPeak DirectLink load control switch for delivery to an address in the United States. **Exhibit 34** also contains photograph(s) of those products and products' packaging, delivered to an address in the United States, identifying Mexico as the country of origin demonstrating that the product was imported into the United States.

**D. Resideo**

139. The Resideo Accused Products are manufactured outside of the United States and sold for importation into the United States, imported into the United States, and/or sold within the United States after importation by Resideo and/or its authorized agents.

140. For example, **Exhibit 35** is a receipt showing the April 9, 2021 purchase of a Honeywell Home THX321WFS2001W T10 Pro Smart Thermostat and a Honeywell Home

RTH9585WF1004 Wi-Fi Smart Color Thermostat for delivery to an address in the United States. **Exhibit 35** also contains photograph(s) of those products and products' packaging, delivered to an address in the United States, identifying Mexico as the country of origin demonstrating that the product was imported into the United States.

141. On information and belief, Resideo sells its smart thermostats under the Honeywell Home brand.

**E. Xylem**

142. The Xylem Accused Products are manufactured outside of the United States and sold for importation into the United States, imported into the United States, and/or sold within the United States after importation. Xylem sells its devices under the Sensus brand.

143. For example, **Exhibit 36** contains a photograph of a Sensus FlexNet Model Danhan LCM designed for use in the United States bearing the FCC and SGS-USTC marks. **Exhibit 36** also identifies Mexico as the country of origin demonstrating that the product was imported into the United States.

**VII. HARMONIZED TARIFF SCHEDULE NUMBERS**

144. On information and belief, the accused products of which Complainant is currently aware may be classified and imported under at least the following Harmonized Tariff Schedule of the United States heading/subheading numbers: 8537.10.91, 9032.10.00, and 9032.89.60. These classifications are exemplary, and not intended to restrict the scope of any exclusion order or other remedy ordered by the Commission. Complainant will provide updated Harmonized Tariff Schedule numbers as they are discovered throughout the course of the investigation.

## **VIII. RELATED LITIGATION**

145. On July 22, 2021, Causam filed a complaint in the U.S. District Court for the Western District of Texas alleging infringement of the Asserted Patents by Alarm.com, Inc. *See Causam Enterprises, Inc. v. Alarm.com, Inc.*, No. 6:21-cv-00751 (W.D. Tex.).

146. On July 22, 2021, Causam filed a complaint in the U.S. District Court for the Western District of Texas alleging infringement of the Asserted Patents by ecobee, Inc. *See Causam Enterprises, Inc. v. ecobee, Inc.*, No. 6:21-cv-00748 (W.D. Tex.).

147. On July 22, 2021, Causam filed a complaint in the U.S. District Court for the Western District of Texas alleging infringement of the Asserted Patents by Itron, Inc. *See Causam Enterprises, Inc. v. Itron, Inc.*, No. 6:21-cv-00750 (W.D. Tex.).

148. On July 22, 2021, Causam filed a complaint in the U.S. District Court for the Western District of Texas alleging infringement of the Asserted Patents by Resideo Technologies, Inc. *See Causam Enterprises, Inc. v. Resideo Technologies, Inc.*, No. 6:21-cv-00749 (W.D. Tex.).

149. On July 22, 2021, Causam filed a complaint in the U.S. District Court for the Western District of Texas alleging infringement of the Asserted Patents by Xylem Inc. *See Causam Enterprises, Inc. v. Xylem Inc.*, No. 6:21-cv-00752 (W.D. Tex.).

150. To Complainant's knowledge, the unfair acts described herein, or the subject matter thereof, have not been the subject of any court or agency litigation other than that described above.

## **IX. DOMESTIC INDUSTRY**

151. An industry as required by Section 337(a)(2) and as defined by Section 337(a)(3) exists in the United States. Complainant relies on its licensee, Landis+Gyr, to establish the existence of a domestic industry. Landis+Gyr has made significant investments in plant and equipment, employed significant labor and capital, and made substantial investments in

engineering and research and development related to products and services that embody the Asserted Patents.

152. Landis+Gyr is licensed to practice each of the Asserted Patents. On May 8, 2013, the sole inventor of the Asserted Patents, Mr. Joseph W. Forbes, Jr., granted a non-exclusive license to practice the inventions claimed in the Asserted Patents to Consert Inc., a subsidiary of Toshiba Corporation (the “Consert Agreement”). *See Confidential Exhibit 11.* In 2016, Consert Inc.’s assets were transferred to Landis+Gyr, another subsidiary of Toshiba Corporation. Accordingly, the Consert Agreement authorizes Landis+Gyr to practice the inventions claimed in the Asserted Patents.

153. Complainant’s domestic industry based upon the investments of Landis+Gyr is comprised of, for example, the engineering, research and development, testing, deployment, and technical support of the Domestic Industry Products in the United States. On information and belief, Landis+Gyr has expended and continues to expend considerable resources on plant and equipment, labor and capital, and engineering and research and development to support the Domestic Industry Products in the United States.

**A. Products that Practice the Asserted Patents**

154. For purposes of this complaint, Complainant submits that each of the Asserted Patents are practiced by Landis+Gyr’s Demand Response product line, including but not limited to the L530 and L570 series RF Load Control Switches, the L410 and L430 series Programmable Communicating Thermostats, Electric AMI Smart Meters including the E331/E351 FOCUS AXe/AXRe/RXRe and LTE-M Cellular FOCUS AXe/AXe-SD, and associated software and platforms, including Power Center, Command Center, and Gridstream (“Domestic Industry Products”). The following table provides a summary of the Domestic Industry Products that practice each of the Asserted Patents.

U.S. Patent No.	Domestic Industry Products
8,805,552	Landis+Gyr’s Demand Response product line, including but not limited to the L530 and L570 series RF Load Control Switches, the L410 and L430 series Programmable Communicating Thermostats, Electric AMI Smart Meters including the E331/E351 FOCUS AXe/AXRe/RXRe and LTE-M Cellular FOCUS AXe/AXe-SD, and associated software and platforms, including Power Center, Command Center, and Gridstream
9,678,522	
10,394,268	
10,396,592	

155. A claim chart showing that the Domestic Industry Products practice at least exemplary claim 1 of the ’552 Patent is attached as **Exhibit 37**.

156. A claim chart showing that the Domestic Industry Products practice at least exemplary claim 1 of the ’522 Patent is attached as **Exhibit 38**.

157. A claim chart showing that the Domestic Industry Products practice at least exemplary claim 1 of the ’268 Patent is attached as **Exhibit 39**.

158. A claim chart showing that the Domestic Industry Products practice at least exemplary claim 1 of the ’592 Patent is attached as **Exhibit 40**.

**B. Domestic Investments in the United States Relating to the Products that Practice the Asserted Patents**

159. Complainant’s domestic industry is based on investments in the engineering, research and development, testing, deployment, and technical support of the Domestic Industry Products in the United States by its domestic license Landis+Gyr.

160. These activities comprise a significant investment in plant and equipment, significant employment of labor or capital, and/or a substantial investment in the exploitation of the Asserted Patents through engineering and research and development.

## 1. Significant Investments in Plant and Equipment

161. On information and belief, a domestic industry as defined by 19 U.S.C. § 1337(a)(3)(A) exists in the United States with respect to the Domestic Industry Products through Landis+Gyr's significant investment in plant and equipment.

162. Landis+Gyr and its subsidiaries have numerous facilities in the United States, including in San Antonio, Texas; Bloomington, Minnesota; Alpharetta, Georgia; Lafayette, Indiana; and Pequot Lakes, Minnesota. *See Exhibit 153*. On information and belief, these domestic facilities are used to support the Domestic Industry Products. For example, Landis+Gyr's Alpharetta, Georgia facility is a 7,800 square foot facility dedicated to research and development of AMI meters, communications platforms and devices, Smart-Grid, HES, software platforms, and AMI tools and apps. *See Exhibit 159* at 149, 154. Landis+Gyr's Pequot Lakes, Minnesota facility is a 4,700 square foot facility dedicated to research and development of software platforms, HES, validation and system integration testing, and communications devices. *Id.* Landis+Gyr's Lafayette, Indiana facility is a 13,800 square foot facility dedicated to research and development of AMI meters and Smart-Grid. *Id.* at 131, 154. These research and development activities directly relate to and support the Domestic Industry Products.

163. Between 2016 and 2020, Landis+Gyr invested millions of dollars in property, plant and equipment in the United States. For instance, Landis+Gyr invested over \$18 million in 2016, \$16 million in 2017, \$18 million in 2018, \$8 million in 2019, and \$8 million in 2020 in the Americas in capital expenditures, which include the amounts invested in property, plant and equipment.<sup>3</sup> *See Exhibits 154-157*.

---

<sup>3</sup> Annual periods are used to refer to Landis+Gyr's fiscal year information which covers the period from April 1 through March 31. For example, 2016 refers to the fiscal period from April 1, 2016 through March 31, 2017

164. On information and belief, a sales-based allocation can be used to estimate the portion of Landis+Gyr’s investments in plant and equipment directed to the Domestic Industry Products in the United States.

(USD in thousands)	2016	2017	2018	2019	2020
<b>Smart Electricity Meters Market (Americas)<sup>4</sup></b>	\$1,100,000	\$1,177,000	\$1,259,390	\$1,347,547	\$1,441,875
<b>Landis+Gyr Estimated Smart Electricity Meters Market Share (Americas)<sup>5</sup></b>	39%	37%	34%	33%	31%
<b>Landis+Gyr Estimated Revenues of Smart Electricity Meters (Americas)</b>	\$429,000	\$429,605	\$428,192	\$437,952	\$446,981
<b>Landis+Gyr Ratio of Revenues (United States) to Revenues (Americas)<sup>6</sup></b>	87%	91%	88%	89%	90%
<b>Landis+Gyr Estimated Revenues of Smart Electricity Meters (United States)</b>	\$372,780	\$390,425	\$376,712	\$388,406	\$403,845
<b>Landis+Gyr Revenue (Americas)<sup>7</sup></b>	\$931,190	\$972,198	\$985,982	\$906,256	\$700,040
<b>Landis+Gyr Ratio of Smart Electricity Meter Revenues (United States) to Revenue (Americas)</b>	40%	40%	38%	43%	58%

165. Applying this sales-based allocation, on information and belief, over \$29 million of Landis+Gyr’s investments in property, plant, and equipment between 2016 and 2020 are directly attributable to the Domestic Industry Products in the United States.

<sup>4</sup> See Exhibit 159 at 122-123 (“The total market for smart electricity meters in all of the Americas is forecast to expand by a CAGR of 7% over the next five years and to be worth about USD 1.5 billion in 2021 (IHS 2016).”).

<sup>5</sup> See Exhibit 160 at 5 (estimating 2015 AMI Market Share at 39%); see also Exhibit 161 at 3 (estimating 2018 AMI Market Share at 34%); see also Exhibit 158 at 20 (estimating 2020 Smart Electricity Meter Market Share at 31%). Market share amounts for 2016, 2017 and 2019 are estimated.

<sup>6</sup> See Exhibit 154 at 76; Exhibit 155 at 89; Exhibit 156 at 90; Exhibit 157 at 22.

<sup>7</sup> See Exhibit 154 at 75; Exhibit 155 at 88; Exhibit 156 at 91; Exhibit 157 at 61.

(USD in thousands)	2016	2017	2018	2019	2020	Total
<b>Landis+Gyr Capital Expenditures in Property, Plant, and Equipment (Americas)<sup>8</sup></b>	\$18,966	\$16,408	\$18,597	\$8,334	\$8,654	\$70,959
<b>Allocation to Domestic Industry Products in the United States</b>	\$7,593	\$6,589	\$7,105	\$3,572	\$4,992	\$29,851

166. On information and belief, the above recited allocations are conservative at least because the Domestic Industry Products are not limited to smart electricity meters. As noted above, the Asserted Patents are practiced by Landis+Gyr’s Demand Response product line, including Electric AMI Smart Meters as well as Load Control Switches, Programmable Communicating Thermostats, and associated software and platforms. Accordingly, on information and belief, qualifying domestic industry investments are expected to include additional investments that are not accounted for above.

## 2. Significant Investments in Labor or Capital

167. On information and belief, a domestic industry as defined by 19 U.S.C. § 1337(a)(3)(B) exists in the United States with respect to the Domestic Industry Products through Landis+Gyr’s significant employment of labor or capital.

168. For example, at the end of FY 2020, Landis+Gyr had 5,071 employees, including 1,846 employees in the Americas. *See Exhibit 158* at 31. On information and belief, Landis+Gyr’s U.S.-based employees provide engineering, research and development, testing, deployment, and technical support to help ensure that the Domestic Industry Products work in the U.S. market. Additionally, on information and belief, Landis+Gyr’s U.S.-based employees perform research and development related to AMI meters, communications platforms and devices, Smart-Grid, HES, software platforms, and AMI tools and apps. Using the sales-based allocation described

---

<sup>8</sup> *See Exhibit 154* at 76; *Exhibit 155* at 89; *Exhibit 156* at 90; *Exhibit 157* at 61.



above, Landis+Gyr had approximately 1,065 employees in the United States at the end of FY 2020 who performed work directly related to the Domestic Industry Products.

169. Between 2016 and 2020, Landis+Gyr invested millions of dollars in labor and capital related to the research and development or ongoing product maintenance and support of the Domestic Industry Products in the United States. For instance, Landis+Gyr invested over \$162 million in 2016, \$163 million in 2017, \$156 million in 2018, \$157 million in 2019, and \$148 million in 2020 in “research and development.” *See Exhibits 154-157.*

170. On information and belief, a sales-based allocation can be used to estimate the portion of Landis+Gyr’s investments in labor and capital directed to the Domestic Industry Products in the United States.

(USD in thousands)	2016	2017	2018	2019	2020
<b>Landis+Gyr Estimated Revenue of Smart Electricity Meters (United States)</b>	\$372,780	\$390,425	\$376,712	\$388,406	\$403,845
<b>Landis+Gyr Revenue (Global)</b>	\$1,659,235	\$1,737,814	\$1,765,159	\$1,698,999	\$1,357,448
<b>Landis+Gyr Ratio of Smart Electricity Meter Revenue (United States) to Revenue (Total)</b>	22%	22%	21%	23%	30%

171. Applying this sales-based allocation, on information and belief, over \$187 million of Landis+Gyr’s investments in labor and capital between 2016 and 2020 are directly attributable to the Domestic Industry Products in the United States.

(USD in thousands)	2016	2017	2018	2019	2020	Total
<b>Landis+Gyr Investments in Labor and Capital (Global)<sup>9</sup></b>	\$162,784	\$163,833	\$156,847	\$157,705	\$148,717	\$789,886
<b>Allocation to Domestic Industry Products in the United States</b>	\$36,573	\$36,808	\$33,474	\$36,053	\$44,244	\$187,152

<sup>9</sup> See Exhibit 154 at 32; Exhibit 155 at 33; Exhibit 156 at 34; Exhibit 157 at 22.

172. On information and belief, the above recited allocations are conservative at least because the Domestic Industry Products are not limited to smart electricity meters. As noted above, the Asserted Patents are practiced by Landis+Gyr's Demand Response product line, including Electric AMI Smart Meters as well as Load Control Switches, Programmable Communicating Thermostats, and associated software and platforms. Accordingly, on information and belief, qualifying domestic industry investments are expected to include additional investments that are not accounted for above.

### **3. Substantial Investments in Research and Development**

173. On information and belief, a domestic industry as defined by 19 U.S.C. § 1337(a)(3)(C) exists in the United States with respect to the Domestic Industry Products through Landis+Gyr's substantial investment in engineering and research and development directed to the Domestic Industry Products for at least the reasons stated above.

## **X. RELIEF REQUESTED**

174. In view of the Proposed Respondents' continued unfair import activities, Complainant requests that the U.S. International Trade Commission:

- a. institute an immediate investigation, pursuant to Section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, with respect to violations of Section 337 based upon the sale for importation into the United States, the importation into the United States, and/or the sale within the United States after importation of articles that infringe one or more claims of United States Patent No. 8,805,552, United States Patent No. 9,678,522, United States Patent No. 10,394,268, and United States Patent No. 10,396,592, as well as the unlawful importation into the United States, sale for importation into the United States, and/or sale within the United States after importation of products containing the same made by or for Respondents;

- b. Schedule and conduct a hearing pursuant to Section 337(c) for the purposes of receiving evidence and hearing argument concerning whether there has been a violation of Section 337, and, following the hearing, determine that there have been violations of Section 337 by each Respondent;
- c. Issue permanent limited exclusion orders, pursuant to 19 U.S.C. § 1337(d), prohibiting entry into the United States of all of Respondents' smart thermostats, load control switches, and products containing same that infringe one or more claims of United States Patent No. 8,805,552, United States Patent No. 9,678,522, United States Patent No. 10,394,268, and United States Patent No. 10,396,592;
- d. Issue permanent cease and desist orders, pursuant to 19 U.S.C. § 1337(f), prohibiting Respondents, or their parents, subsidiaries, related companies, other affiliates, or agents, from importing, admitting or withdrawing from a foreign trade zone, marketing, advertising, demonstrating, warehousing inventory of, distributing, offering for sale, selling, transferring (except for exportation), licensing, repairing, soliciting U.S. agents or distributors for, or aiding or abetting other entities in the importation, sale for importation, sale after importation, transfer (except for exportation), or distribution of Respondents' products that infringe one or more claims of United States Patent No. 8,805,552, United States Patent No. 9,678,522, United States Patent No. 10,394,268, and United States Patent No. 10,396,592;
- e. Require appropriate bond be posted, pursuant to 19 U.S.C. § 1337(j), with U.S. Customs and Border Protection for entry of any Accused Product or component thereof during the Presidential review period;

- f. Require an appropriate bond be posted, pursuant to 19 U.S.C. § 1337(j), with the Commission for each and every proscribed activity pursuant to the Cease and Desist Order during the Presidential review period; and
- g. Grant such other and further relief as the Commission deems just and proper based on the facts determined by the investigation and the authority of the Commission.

Dated: July 28, 2021

Respectfully submitted,



---

Jeffrey M. Telep  
Brian D. Hill  
Richard C. Lutz, Consultant  
**KING AND SPALDING LLP**  
1700 Pennsylvania Avenue N.W.  
Washington, DC 20006  
Phone: (202) 737-0500

Christopher C. Campbell  
**KING AND SPALDING LLP**  
1650 Tysons Boulevard  
Suite 400  
McLean, VA 22102  
Telephone: (703) 245-1000

Britton F. Davis  
Brian Eutermoser  
**KING AND SPALDING LLP**  
1401 Lawrence Street  
Suite 1900  
Denver, CO 80202  
Phone: (720) 535-2300

Abby L. Parsons  
**KING AND SPALDING LLP**  
1100 Louisiana Street  
Suite 4100  
Houston, TX 77002  
Phone: (713) 751-3200

John D. Roehrick  
**KING AND SPALDING LLP**  
633 West Fifth Street  
Suite 1600  
Los Angeles, CA 90071  
Phone: (213) 443-4355

Rahul Sarkar  
**KING AND SPALDING LLP**  
1185 Avenue of the Americas  
34<sup>th</sup> Floor  
New York, NY 10036  
Phone: (212) 556-2100

Noah Stid  
**KING AND SPALDING LLP**  
601 South California Avenue  
Suite 100  
Palo Alto, CA 94304  
Phone: (650) 422-6700

*Counsel for Complainant  
Causam Enterprises, Inc.*