

1 Jeff D. Friedman (173886)
Shana E. Scarlett (217895)
2 HAGENS BERMAN SOBOL SHAPIRO LLP
715 Hearst Avenue, Suite 202
3 Berkeley, CA 94710
Telephone: (510) 725-3000
4 Facsimile: (510) 725-3001
jefff@hbsslaw.com
5 shanas@hbsslaw.com

6 Steve W. Berman (*pro hac vice*)
HAGENS BERMAN SOBOL SHAPIRO LLP
7 1918 Eighth Avenue, Suite 3300
Seattle, WA 98101
8 Telephone: (206) 623-7292
Facsimile: (206) 623-0594
9 steve@hbsslaw.com

10 Kit A. Pierson (*pro hac vice*)
Daniel A. Small (*pro hac vice*)
11 COHEN MILSTEIN SELLERS & TOLL PLLC
1100 New York Ave. NW, Suite 500, West Tower
12 Washington, DC 20005
13 Telephone: (202) 408-4600
kpierson@cohenmilstein.com
14 dsmall@cohenmilstein.com

15 *Co-Lead Counsel for Direct Purchaser Plaintiffs*

16 [Additional Counsel Listed on Signature Page]

17 UNITED STATES DISTRICT COURT
18 NORTHERN DISTRICT OF CALIFORNIA
19 SAN JOSE DIVISION

20 IN RE RESISTORS ANTITRUST
LITIGATION

Case No. 3:15-cv-03820-JD

22 This Documents Relates to:
23 DIRECT PURCHASER ACTIONS

SECOND CONSOLIDATED AMENDED
CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

26 **REDACTED VERSION OF DOCUMENT SOUGHT TO BE SEALED**
27
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1 Plaintiff Schuten Electronics, Inc. (“Plaintiff”), individually and on behalf of a class of all
2 others similarly situated, brings this action for treble damages under the antitrust laws of the United
3 States against Defendants, and demands a jury trial.

4 **I. INTRODUCTION**

5 1. The antitrust laws protect the life blood of our free enterprise system: competition.
6 Section 1 of the Sherman Act prohibits competitors from working together to charge their customers
7 supra-competitive prices. Defendants – the largest manufacturers of linear resistors in the world –
8 violated this fundamental tenet by conspiring to raise the prices of linear resistors for over a decade.

9 2. Seeking to salvage their profitability amid a collapse in prices brought on by
10 elimination of tariff barriers and a global recession, Defendants at least as early as July 2003 agreed
11 to work together – i.e., conspired – to artificially stabilize and increase resistor prices and preserve
12 their position in global resistor markets. Defendants executed their scheme through disciplined,
13 cooperative activities in which they regularly met or had direct communications concerning price,
14 output, capacity, and other competitively sensitive data in order to coordinate their market behavior.

15 3. The Japan Electronics and Information Technology Industries Association (“JEITA”)
16 and its Passive Components Business Committee was a focal point for Defendants’ collusive
17 activities. Because the Committee was composed of and controlled by Defendants and their co-
18 conspirators, it provided a powerful tool for limiting competition. At a July 2003 Committee
19 meeting, Defendants and co-conspirators agreed on a procedure for facilitating coordination of
20 industry behavior in their subsequent meetings with the aim of reducing output and stabilizing prices.
21 Acting in concert, each company provided the others with company-specific competitive
22 information, including their current sales and changes in production of linear resistors, “domestic and
23 foreign price status,” and each “company’s overseas production status, status of shift to overseas
24 production, export trends, [and] overseas markets[.]” Defendants adhered to this procedure for
25 facilitating coordination during regularly scheduled meetings of the Passive Components Committee,
26 which convened multiple times each year. For example, in a 2008 “Resistor Information Exchange
27 Meeting,” Defendants and co-conspirator resistor manufacturers collusively discussed company-
28 specific resistor sales performance and planned to freeze or increase prices for linear resistors.

1 4. Defendants' collusion was not limited to these regularly-scheduled industry meetings,
2 as they also colluded through in-person, telephone, and email exchanges between individual
3 competitors. These individual co-conspirator communications supplemented, and often built upon,
4 the collusive discussions occurring at the JEITA meetings. For example, Panasonic's Yoshinori
5 Hourai wrote to Yoshihiro Hashimoto of Panasonic in September 2006, asking Hashimoto to share
6 price information with ROHM. The collusive pricing discussion was successful, as Hourai later
7 wrote that he "had GM Hashimoto contact the person responsible for General Global at R Co." "R
8 Co.," as used in Hourai's email, was code for competitor "ROHM." The following comment came
9 back from R. Co.: "We plan to raise prices to Nokia for the 1005 type [resistor]." Recognizing the
10 collusive nature of this exchange of pricing information, Hourai attempted to conceal it by warning
11 recipients not to forward his email.

12 5. In another collusive price discussion, Keiichi Shimada of HDK Co. emailed
13 Panasonic's Hourai in September 2008, asking for information about a resistor model requested by
14 customer Apple, Inc., a U.S. corporation. Hourai responded with the requested information and
15 asked Shimada what HDK's pricing was on a different resistor model, sharing that Hourai expected
16 that Panasonic's customers would request \$0.09 per thousand pieces in October and asking what
17 HDK planned to do. Hourai shared that Panasonic's profits on the resistor model are "not good" and
18 told his competitor that Panasonic wanted to stop price reductions.

19 6. Defendants' collusive discussions neutralized competition among themselves and
20 halted pricing pressure. For example, one week after one of many Passive Components Committee
21 meetings where Defendants met in person and held collusive discussions about each company's
22 market performance and resistor product release plans, the Chairman of the Committee and CEO of
23 Defendant KOA Corp., Koichi Mukaiyama, told a 2008 meeting of KOA's Board of Directors that
24 although he was "not supporting a violation of the antitrust law"

25 [W]e (resistor companies) should not be cutting prices for the sake of
26 receiving orders. . . . Each management has to think not only for its
 company but also for the sake of the industry as a whole.

27 In fact, Defendants routinely acted "for the sake of the industry as a whole" rather than compete with
28 each other by coordinating their behavior in order to maintain or raise resistor prices. Indeed, at an

1 August 2008 JEITA Resistor Working Group meeting among Defendants and their co-conspirators,
2 Defendant HDK Co. confirmed to its competitors that its top management had given instructions to
3 raise prices. Co-conspirator Taiyosha affirmed that, despite suffering sales in the vehicle end-market
4 it had “basically stopped price decreases.” According to meeting notes from around this time,
5 “[a]round 50% of resistor manufacturers are implementing price increases or curbing price
6 decreases.”

7 7. Armed with knowledge of their co-conspirators’ current and future prices, production
8 capacity, marketing strategies, and other competitively sensitive data gained through JEITA
9 meetings and individual discussions, Defendants successfully restrained competition and achieved
10 their intended goal of stabilizing, and even raising, resistor prices during the Class Period.
11 Preliminary analysis of publicly available pricing data shows price increases of 20-25% over the
12 decade following the initiation of the conspiracy. As a result of the conspiracy, Defendants
13 effectively muted the impact subsequent financial crises had on prices, as linear resistors prices
14 remained stable, and even increased, during the 2008 financial crisis and subsequent recession
15 because Defendants successfully resisted efforts to reduce prices. As a result, Plaintiff and the Class
16 paid supra-competitive prices for linear resistors purchased directly from Defendants.

17 8. Certain conditions in the linear resistors market rendered it particularly susceptible to
18 Defendants’ manipulation. For example, linear resistors are interchangeable, simply designed
19 commodities, forcing sellers to compete largely on the basis of price. Moreover, the market for
20 linear resistors is dominated by a small number of manufacturers – Defendants here – rendering
21 collusion more manageable, and high barriers to entry exist, reducing the risk that any new market
22 entrants could quickly undermine Defendants’ conspiracy. Not surprisingly, these exact market
23 conditions, involving these Defendants, have resulted in allegations of anticompetitive conduct by
24 global competition authorities and purchasers alike in both the linear resistors industry and in the
25 related capacitors industry.

26 9. Defendants concealed their illegal conduct through a variety of means. Among other
27 devices, Defendants carried out their collusive exchanges under the cover of JEITA industry
28 conferences, a private forum that Defendants controlled and limited to co-conspirator manufacturers.

1 Recognizing the illegal nature of their practices, Defendants frequently warned each other not to
2 forward records of collusive exchanges outside of the conspiracy. Defendants used code-words to
3 refer to fellow conspirators and customers who were affected by the conspiracy, ensured the minutes
4 of their meetings were not distributed publicly, and attempted to sanitize incriminating language in
5 those minutes to avoid revealing the collusive nature of their discussions. Defendants' concealment
6 was successful, as their conspiracy remained a secret until the summer of 2015, when media
7 organizations reported that Defendant Panasonic was seeking leniency from the United States
8 Department of Justice for its participation in anticompetitive conduct in the linear resistors market.

9 10. As Defendant KOA's internal meeting minutes note, "[t]here are many events that are
10 considered normal in Japan but strange from the viewpoints of foreigners. Participating in some of
11 these events can put the company at risk of being deemed taking part in antitrust activities. We are in
12 the process of addressing antitrust-related risks in our regulations. Since we do not have a lot of time
13 as the risk has already materialized, the Import Control Center and the General Affairs Center will be
14 hastily putting together actions to be taken by the KOA Group companies." Another KOA official
15 responded, "I realize the situation is becoming serious, and we cannot get away by saying, 'We did
16 not know.' Business practices we are so accustomed to may no longer be deemed legitimate
17 activities."

18 11. Unfortunately for Plaintiff and the Class, Defendants' efforts to reform their behavior
19 came after the Class paid supra-competitive prices for more than a decade. This suit seeks to recover
20 those overcharges for Plaintiff and the Class and impose treble damages under the Sherman Act.

21 II. PARTIES

22 12. Whenever this Complaint alleges an act, deed, or transaction of any corporation, that
23 allegation means that the corporation engaged in the act, deed, or transaction by or through its
24 officers, directors, agents, employees, or representatives while they were actively engaged in the
25 management, direction, control, or transaction of the corporation's business or affairs.

26 A. Plaintiff

27 13. Plaintiff Schuten Electronics, Inc. is an Illinois corporation located at 200 N.
28 Michigan Ave., Elmhurst, Illinois 60126. Plaintiff directly purchased linear resistors from one or

1 more Defendants during the Class Period, and has suffered injury as a result of Defendants'
2 anticompetitive and unlawful conduct.

3 **B. Defendants**

4 **1. HDK**

5 14. Defendant Hokuriku Electric Industry Co. (“HDK Co.”) is a Japanese corporation
6 with its principal place of business located at 3158 Shimo-okubu, Toyama City, Toyama 939-2292,
7 Japan. HDK Co. is one of the world’s leading manufacturers of linear resistors, and the largest
8 manufacturer of thick film chip resistors used in automobiles. During the Class Period, HDK Co.
9 manufactured, sold, and distributed linear resistors either directly or through its business units,
10 subsidiaries, agents, or affiliates to United States purchasers.

11 15. Defendant HDK America, Inc. (“HDK America”), a wholly owned subsidiary of
12 HDK Co., is an Illinois corporation with its principal place of business located at 200 N. Northwest
13 Highway, Suite 201, Barrington, Illinois 60010. During the Class Period, HDK America – either
14 directly or through its business units, subsidiaries, agents, or – sold and distributed to United States
15 purchasers linear resistors manufactured by business units, subsidiaries, agents, or affiliates of its
16 corporate parent, HDK Co.

17 16. Defendants HDK Co. and HDK America are together referred to herein as “HDK.”

18 **2. KOA**

19 17. Defendant KOA Corporation (“KOA Corp.”) is a Japanese corporation with its
20 principal place of business located at 2-17-2 Midori-Cho, Fuchu-Shi, Tokyo 183-0006, Japan. KOA
21 Corp. is one of the world’s leading manufacturers of linear resistors, and the largest manufacturer of
22 thick film chip resistors used in automobiles. During the Class Period, KOA Corp. manufactured,
23 sold, and distributed linear resistors either directly or through its business units, subsidiaries, agents,
24 or affiliates to United States purchasers.

25 18. Defendant KOA Speer Electronics, Inc. (“KOA Speer” or “KSE”), a subsidiary of
26 KOA Corp., is a Delaware corporation with its principal place of business located at 199 Bolivar
27 Drive, Bradford, Pennsylvania 16701. During the Class Period, KOA Speer – either directly or
28 through its business units, subsidiaries, agents, or affiliates – sold and distributed to United States

1 purchasers linear resistors manufactured by business units, subsidiaries, agents, or affiliates of its
2 corporate parent, KOA Corp.

3 19. Defendants KOA Corp. and KOA Speer are together referred to herein as “KOA.”

4 **3. Panasonic**

5 20. Defendant Panasonic Corporation is a Japanese corporation with its principal place of
6 business located at 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501, Japan. Until October 1,
7 2008, Panasonic Corporation operated under the name of Matsushita Electric Industrial Co., Ltd.
8 (“Matsushita Electric”). Panasonic Electronic Devices Co. Ltd. (“PED”) is a former Japanese
9 subsidiary of Panasonic Corporation that was absorbed by Panasonic Corporation around April 2012.
10 During the Class Period, Matsushita Electric, Panasonic Corporation, and PED (referred to together
11 as “Panasonic Corp.”) manufactured, sold, and distributed linear resistors either directly or through
12 their business units, subsidiaries, agents, or affiliates to United States purchasers.

13 21. Defendant Panasonic Corporation of North America (“PNA”), a wholly owned
14 subsidiary of Panasonic Corporation, is a Delaware corporation with its principal place of business
15 located at Two Riverfront Plaza, Newark, New Jersey 07102. During the Class Period, PNA – either
16 directly or through its business units, subsidiaries, agents, or affiliates (including, without limitation,
17 Panasonic Industrial Sales Company) – sold and distributed to United States purchasers linear
18 resistors manufactured by business units, subsidiaries, agents, or affiliates of its corporate parent,
19 Panasonic Corporation.

20 22. Defendants Panasonic Corp. and PNA are together referred to herein as “Panasonic.”

21 **4. ROHM**

22 23. Defendant ROHM Co., Ltd. (“ROHM Co.”) is a Japanese corporation with its
23 principal place of business located at 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto 615-8585, Japan.
24 During the Class Period, ROHM Co. manufactured, sold, and distributed linear resistors either
25 directly or through its business units, subsidiaries, agents, or affiliates to United States purchasers.

26 24. Defendant ROHM Semiconductor U.S.A., LLC (“ROHM USA”), a Delaware limited
27 liability corporation, is a wholly owned subsidiary of ROHM Co. with its principal place of business
28 located at 2323 Owen Street, Suite 150, Santa Clara, California 95054. In addition to its

1 headquarters office, ROHM USA maintains no fewer than sixteen additional sales offices located
2 throughout the United States. During the Class Period, ROHM USA – either directly or through its
3 business units, subsidiaries, agents, or affiliates – sold and distributed to United States purchasers
4 linear resistors manufactured by certain business units, subsidiaries, agents, or affiliates of its
5 corporate parent, ROHM Co.

6 25. Defendants ROHM Co. and ROHM USA are together referred to herein as “ROHM.”

7 **5. Kamaya**

8 26. Kamaya Electric Co., Ltd. (“Kamaya Electric”) is a Japanese corporation with its
9 principal place of business located in PSA Building 3F, 6-1-6 Chou, Yamato-shi Kanagawa, 242-
10 0021, Japan. During the Class Period, Kamaya Electric manufactured, sold, and distributed linear
11 resistors either directly or through its business units, subsidiaries, agents, or affiliates to United
12 States purchasers. Since 2006, Kamaya Electric has been a subsidiary of Walsin Technology
13 Corporation, which owns all or nearly all of Kamaya Electric.

14 27. Kamaya Inc. is a wholly owned subsidiary of Kamaya Electric with its principal place
15 of business located at 6407 Cross Creek Boulevard, Fort Wayne, Indiana 46818. Kamaya Inc.
16 maintains a sales office at 4163 Cleveland Ave #1 San Diego, CA 92103, and a warehouse at 28-A
17 Concord Street, El Paso, TX 79906. During the Class Period, Kamaya Inc. – either directly or
18 through its business units, subsidiaries, agents or affiliates – sold and distributed to United States
19 purchasers linear resistors manufactured by certain business units, subsidiaries, agents, or affiliates
20 of its corporate parents, Kamaya Electric and Walsin Technology Corporation.

21 28. Defendants Kamaya Electric and Kamaya Inc. are together referred to herein as
22 “Kamaya.”

23 **6. Walsin**

24 29. Walsin Technology Corporation (“Walsin Technology Co.” or “WTC”) is a
25 Taiwanese corporation with its principal place of business located at 566-1, Kao-Shi Road, Yang-
26 Mei, Tao-Yuan, Taiwan. During the Class Period, Walsin Technology Co. manufactured, sold, and
27 distributed linear resistors either directly or through its business units, subsidiaries, agents, or
28 affiliates to United States purchasers.

1 30. Walsin Technology Corporation U.S.A. (“Walsin USA”) is a wholly-owned
 2 subsidiary of Walsin Technology Co. with its principal place of business located at 6032 Fieldstone
 3 Drive, Dallas, Texas 75252. During the Class Period, Walsin USA – either directly or through its
 4 business units, subsidiaries, agents or affiliates – sold and distributed to United States purchasers
 5 linear resistors manufactured by certain business units, subsidiaries, agents, or affiliates of its
 6 corporate parent, Walsin Technology Co., as well as Kamaya Electric Co.

7 31. Defendants Walsin Technology Co. and Walsin USA are together referred to herein
 8 as “Walsin.”

9 **III. CO-CONSPIRATORS AND AGENTS**

10 32. The following firms and corporations, not named as defendants herein, participated as
 11 co-conspirators with Defendants and performed acts and made statements in furtherance of the
 12 conspiracy. Plaintiff reserves the right to name some or all of these persons as defendants and to
 13 name additional co-conspirators.

14 **1. Alps**

15 33. Alps Electric Co., Ltd. (“Alps Electric”) is a Japanese corporation with its principal
 16 place of business in Tokyo, Japan. During the Class Period, Alps Electric manufactured, sold, and
 17 distributed linear resistors either directly or through its business units, subsidiaries, agents, or
 18 affiliates to United States purchasers.

19 34. Alps Electric (North America), Inc. is a subsidiary of Alps Electric with its principal
 20 place of business located at 3151 Jay Street, Suite 101, Santa Clara, California 95054. Alps Electric
 21 (North America), Inc. also maintains offices in Detroit, Michigan; McAllen, Texas; Dublin, Ohio;
 22 San Diego, California; Austin, Texas; and Redmond, Washington. During the Class Period, Alps
 23 Electric (North America), Inc. – either directly or through its business units, subsidiaries, agents or
 24 affiliates – sold and distributed to United States purchasers linear resistors manufactured by its
 25 corporate parent, Alps Electric.

26 35. Alps Electric and Alps Electric (North America), Inc. are together referred to herein
 27 as “Alps.”

1 **2. Midori**

2 36. Midori Precisions Co., Ltd. (“Midori Precisions”) is a Japanese corporation with its
3 principal place of business located in Tokyo, Japan. During the Class Period, Midori Precisions
4 manufactured, sold, and distributed linear resistors either directly or through its business units,
5 subsidiaries, agents, or affiliates to United States purchasers.

6 37. Midori America Corp. is a wholly owned subsidiary of Midori Precisions with is
7 principal place of business located at 2501 E. Chapman Ave., Suite 260, Fullerton, CA 92831.
8 According to its website, Midori America Corp. was “established for the purpose of serving the
9 North, Central, and South American markets . . . [a]s the sales, marketing and distribution arm” of
10 Midori Precisions that “maintains a complete inventory of Midori standard products[.]” During the
11 Class Period, Midori America Corp. – either directly or through its business units, subsidiaries,
12 agents or affiliates – sold and distributed to United States purchasers linear resistors manufactured by
13 its corporate parent, Midori Precisions.

14 38. Midori Precisions and Midori America Corp. are together referred to herein as
15 “Midori.”

16 **3. Susumu**

17 39. Susumu Co., Ltd. (“Susumu Co.”) is a Japanese corporation with its principal place of
18 business located in Kyoto, Japan. During the Class Period, Susumu Co. manufactured, sold, and
19 distributed linear resistors either directly or through its business units, subsidiaries, agents, or
20 affiliates to United States purchasers.

21 40. Susumu International (USA) Inc. is a subsidiary of Susumu Co. with its principal
22 place of business located in Palisades Park, New Jersey, and with offices located in North Mankato,
23 Minnesota and San Jose, California. According to its company website, Susumu International (USA)
24 “is a sales and marketing arm of” Susumu Co. During the Class Period, Susumu International
25 (USA) – either directly or through its business units, subsidiaries, agents or affiliates – sold and
26 distributed to United States purchasers linear resistors manufactured by its corporate parent, Susumu
27 Co.

1 41. Susumu Co. and Susumu International (USA) Inc. are together referred to herein as
2 “Susumu.”

3 **4. TOCOS**

4 42. Tokyo Cosmos Electric Co. (“TOCOS Electric”) is a Japanese corporation with its
5 principal place of business located in Zama, Japan. During the Class Period, TOCOS Electric
6 manufactured, sold, and distributed linear resistors either directly or through its business units,
7 subsidiaries, agents, or affiliates to United States purchasers.

8 43. TOCOS America is a wholly owned subsidiary of TOCOS Electric with is principal
9 place of business located at 1177 E. Tower Road, Schaumburg, IL 60173. During the Class Period,
10 TOCOS America – either directly or through its business units, subsidiaries, agents or affiliates –
11 sold and distributed to United States purchasers linear resistors manufactured by certain business
12 units, subsidiaries, agents, or affiliates of its corporate parent, TOCOS Electric.

13 44. TOCOS Electric and TOCOS America are together referred to herein as “TOCOS.”

14
15 **IV. JURISDICTION AND VENUE**

16 45. Plaintiff brings this action under Sections 4 and 16 of the Clayton Act, 15 U.S.C.
17 §§ 15 and 26, to recover treble damages and costs of suit, including reasonable attorneys’ fees,
18 against Defendants for the injuries that Plaintiff and the other Class members have suffered from
19 Defendants’ violations of Section 1 of the Sherman Act, 15 U.S.C. § 1.

20 46. This Court has subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331, 1337(a) and
21 Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15(a) and 26.

22 47. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a) and 22 and 28 U.S.C
23 § 1391(b), (c) and (d) because, during the Class Period, Defendants resided, transacted business,
24 were found, or had agents in this District, and a substantial portion of the affected interstate trade and
25 commerce discussed below has been carried out in this District.

26 48. This Court has personal jurisdiction over each Defendant, because each Defendant:
27 transacted business throughout the United States, including in this District; sold linear resistors
28 throughout the United States, including in this District; had substantial contacts with the United

1 States, including in this District; or committed overt acts in furtherance of their illegal scheme and
 2 price-fixing conspiracy in the United States. In addition, the conspiracy was directed at, and had the
 3 intended effect of, causing injury to persons residing in, located in, or doing business throughout the
 4 United States, including in this District.

5 49. Defendants purposefully and knowingly directed the conspiracy alleged herein toward
 6 United States markets. As alleged in Section II.B, *supra*, each Defendant maintained U.S.
 7 subsidiaries throughout the Class Period through which it marketed and sold linear resistors to
 8 United States purchasers. For example, Defendant KOA maintained lists of U.S.-based customers to
 9 whom it sold linear resistors at artificially inflated prices during the Class Period. Indeed, Jeff Rice,
 10 KOA Speer's Vice President of Sales and Marketing, informed KOA Corp.'s Managing Director
 11 Shinichi Makita that KOA held the largest share of U.S. linear resistors markets in 2010. Similarly,
 12 ROHM USA maintained annual records of its total linear resistors sales in the United States by
 13 product type throughout the Class Period.

14 50. Not surprisingly, given all Defendants' ongoing United States presence, each
 15 Defendant colluded with other Defendants to coordinate their behavior in United States markets. For
 16 example:

- 17 • ROHM, KOA, HDK, and co-conspirator Susumu discussed the performance of U.S.
 18 automotive end-markets for linear resistors, with the goal of coordinating their
 19 behavior in these markets, during a January 2008 JEITA "Resistor Information
 Exchange Meeting."
- 20 • Defendants discussed the performance of United States linear resistor markets, with
 21 the goal of coordinating their sales and marketing activities in those markets, during
 22 an August 25, 2010 meeting of the JEITA Passive Components Business Committee
 and Resistors Working Group, attended by all Defendants as well as co-conspirators
 Alps Electric, Susumu Co., and Midori Precisions.
- 23 • HDK Co., ROHM, and KOA, along with other resistor manufacturers, promoted
 24 coordination between the firms present in U.S. markets by discussing their
 companies' chip resistor sales in the United States during a September 2013 meeting
 of JEITA's "Chip Resistor Expert Committee."
- 25 • Panasonic and KOA discussed KOA's sales to North America in private meetings
 26 during the Class Period.
- 27 • HDK and Panasonic employees discussed resistor products sold to "A Co." in
 28 September 1, 2008 email correspondence. On information and belief, "A Co." was
 code for customer Apple, Inc., a U.S. corporation.

1 51. Assignment of this case to the Northern District of California is proper because the
2 interstate trade and commerce involved and affected by Defendants' violations of the antitrust laws
3 was substantially conducted with, directed to, or impacted Plaintiff and members of the Class in
4 counties located within the Division. *See* Civil Local Rule 3.2 (c) and (e).

5 **V. TRADE AND COMMERCE**

6 52. The activities of Defendants and their co-conspirators, as described in this
7 Consolidated Amended Complaint, were within the flow of and substantially affected interstate
8 commerce.

9 53. During the Class Period, Defendants and their co-conspirators sold substantial
10 quantities of linear resistors in a continuous and uninterrupted flow of interstate commerce, including
11 through and into this District.

12 54. Defendants' conduct both within and outside the United States that caused direct,
13 substantial, and reasonably foreseeable and intended anticompetitive effects upon interstate
14 commerce within the United States.

15 55. Defendants manufactured certain linear resistors outside the United States that were
16 sold within the United States. These sales constitute domestic or import commerce.

17 56. The cumulative effect of Defendants' collusion resulted in the Class paying millions
18 of dollars more for linear resistors than they otherwise would have in a competitive market. This
19 effect was, or should have been, anticipated by Defendants as the natural and predictable
20 consequence of their actions.

21 **VI. FACTUAL ALLEGATIONS**

22 **A. Background on Linear Resistors**

23 57. Resistors are electrical components that limit or regulate the flow of electrical current
24 in an electronic circuit. Resistors can also be used to provide a specific voltage for an active device
25 such as a transistor. The resistance is the measure of opposition to the flow of current in a resistor.
26 More resistance means more opposition to current.

27 58. Resistors are considered "passive" electronic components because they regulate rather
28 than generate electrical current and do not require electrical power to operate. Resistors are a

1 fundamental component of electrical circuits used in electronic devices such as televisions, cell
2 phones, computers, and kitchen equipment. Many such devices will contain multiple – sometimes
3 hundreds – of resistors per device.

4 59. Resistors may be divided into two basic categories – linear resistors and non-linear
5 resistors. In basic terms, a linear resistor is a resistor in which the current produced is directly
6 proportional to the applied voltage. Linear resistors consist of fixed and variable resistors. A non-
7 linear resistor is a resistor whose current does not change linearly with changes in applied voltage.
8 Non-linear resistors are excluded from this Second Consolidated Amended Class Action Complaint.

9 60. Linear resistors can be created in a variety of ways. The most common type used in
10 electronic devices and systems is the carbon-composition resistor. In carbon-composition resistors,
11 fine granulated carbon is mixed with clay and hardened. The resistance depends on the proportion of
12 carbon to clay; the higher this ratio, the lower the resistance.

13 61. Two other common types of linear resistor used in many electronic devices are thick
14 and thin film resistors. Thick and thin film resistors are characterized by a ceramic basic
15 encompassed by a resistive layer. Thin film resistors have a thickness in the order of .1 micrometer
16 or smaller while thick film resistors are about a thousand times thicker. Thick film resistors tend to
17 be more accurate, have a better temperature coefficient, and be more stable. Thus, thin film resistors
18 are used in technologies requiring a high level of precision. Conversely, thick film resistors are
19 preferred for applications where these requirements are not necessary. Though each type of linear
20 resistor has properties that may render it more or less useful for a given electronic device, many
21 manufacturers, including Defendants, manufacture multiple different types of linear resistors.
22 Generally, linear resistors are most commonly used in consumer electronics such as computers and
23 audio/visual devices.

24 62. Throughout the Class Period, Defendants sold linear resistors to: (1) Original
25 Equipment Manufacturers (“OEMs”) who incorporate resistors into their finished products,
26 (2) manufacturers who create or assemble electrical circuits that ultimately are incorporated into
27 finished products manufactured by OEMs and other product manufacturers, and (3) electronic
28 component distributors who buy resistors directly from manufacturers and resell them.

B. Evolution of the Global Resistors Industry

63. Resistors were first widely produced as components with wire leads that were inserted through holes into electronic circuit boards, then soldered into place on the circuit board. These resistors were produced as single components, with two leads, or packaged into a network of resistors within a single component, with multiple leads. Both types of leaded components were inserted into the circuit board.

64. In the mid-1980s, so-called surface mount technology came into widespread use, supplanting the use of through-hole, leaded components on electronic circuit boards. By the late 1990s, both integrated circuits (which contain active components, like transistors, which electrically control electron flow) and passive components (like resistors and capacitors, which do not control electrical current in response to another electrical signal) were being packaged and mounted directly on the surface of electronic circuit boards. The use of surface mount technology in producing consumer electronics expanded dramatically in the late 1990s, driven in large part by the increasing miniaturization of electronic functionality incorporated into integrated circuits. Surface mount technology was further popularized with the later development of so-called tape automated bonding (TAB), in which automated machinery was used to automatically place and solder electronic components directly on circuit boards.

65. Continuing technological innovation in semiconductors drove increasing miniaturization of integrated circuits, with numbers of electronic components per area of a silicon chip doubling every two years over the period from about 1995 to 2010. As a result, electronic circuits that previously occupied an entire circuit board, including transistors, capacitors, and resistors, are now often entirely integrated onto a single electronic chip. The resistors contained in the circuit on the chip are now manufactured by the semiconductor chip fabricator, and not by a resistor producer. Nonetheless, external, discrete resistor components are still used in electronic equipment, particularly in the electrical interfaces between chips, and in the circuitry linking chips to their power supplies and external signal interfaces.

1 **C. Late 1990s: Transformation of the Global Resistors Industry**

2 66. In the mid-1990s, Japanese producers dominated the global resistor industry,
3 accounting for almost half of global resistor production. This was an era in which Japanese
4 producers also dominated the consumer electronic industry, and had large shares of the computer and
5 industrial electronic markets as well. Defendants ROHM, KOA, and Panasonic, and co-conspirator
6 Susumu, were among the major Japanese resistor manufacturers during the mid-1990s.

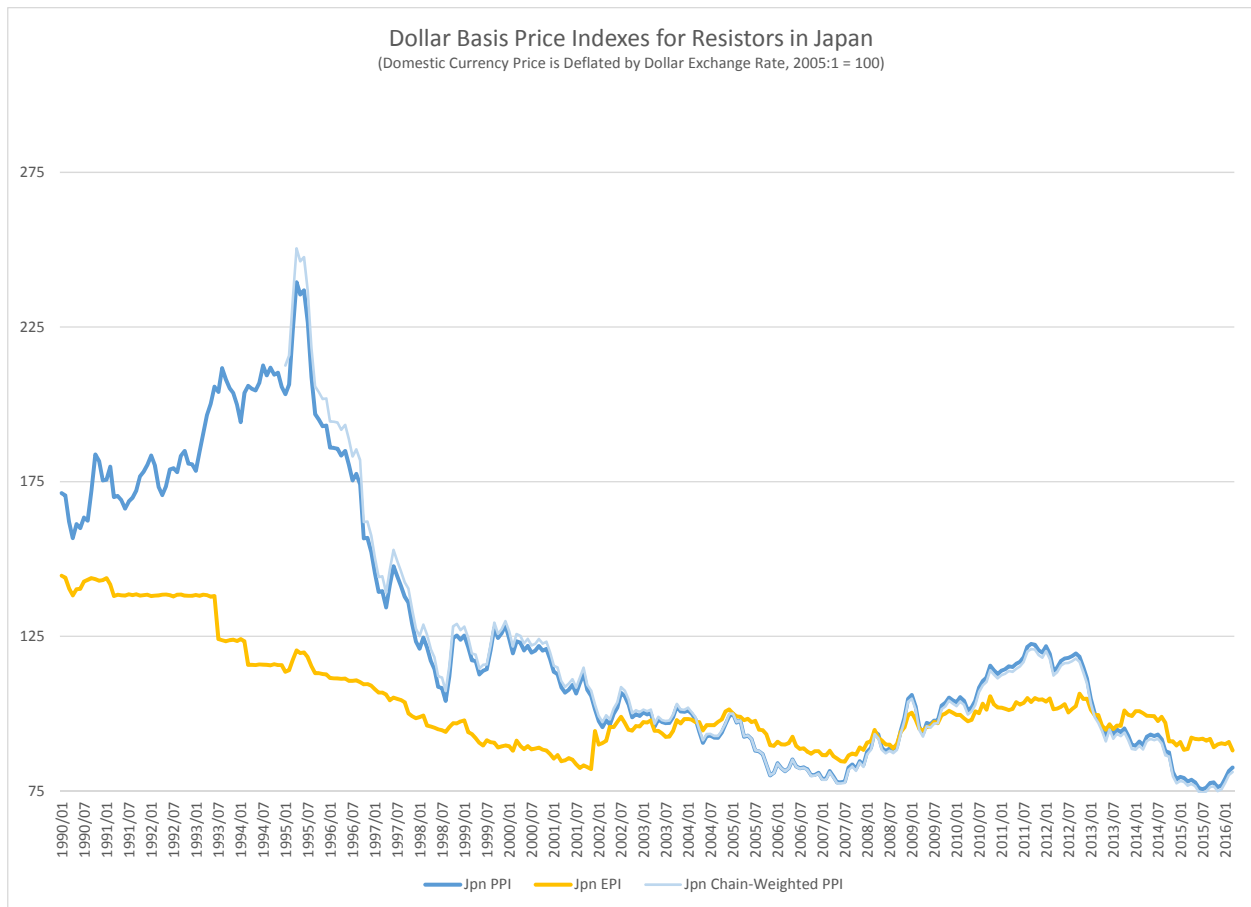
7 67. In the early to mid-1990s, the domestic Japanese electronics market was still
8 protected by significant tariff and non-tariff barriers. In 1992, imports comprised slightly over
9 3 percent of Japanese consumption, and increased to 7 percent in 1996. Japanese imports of passive
10 components were limited mostly to products for which there is no domestically produced equivalent.
11 According to U.S. industry representatives, the major Japanese consumers of passive components,
12 large electronics OEMs, were averse to purchasing products from sources outside their industrial
13 groupings.

14 68. The signing of the international Information Technology Agreement of 1996
15 transformed the global resistor industry. This Agreement called for elimination of all tariffs on trade
16 in resistors (and many other electronic products) over the 1997-2000 period, and required the twenty-
17 nine initial signatories, including the U.S., Japan, the EU, Korea, and Taiwan, “to consult on non-
18 tariff barriers to trade in information technology products,” including resistors. For the United
19 States, this meant eliminating a 6 percent tariff, for the EU a 2.7 percent tariff, for Korea a 13 percent
20 tariff, and for Japan, new pressures to remove non-tariff barriers preventing imports of products
21 produced domestically. In short, the ITA opened up industries like the resistors industries to global
22 competition. As detailed below, the effect on prices was significant.

23 **D. Early 2000s: Resistor Prices Collapse**

24 69. Signing and implementation of the ITA precipitated major declines in prices in the
25 Japanese resistor industry. Figure 1 depicts export and domestic producer price indexes for resistors
26 in Japan. Resistor prices fell by about 30 percent from 1997 to early 2000 in Japan’s protected
27 market.

28



70. Prices for the resistor products that Japan was exporting fell by approximately 20 percent over 1997-2000. This suggests that the exported products sold to foreign buyers were initially priced lower than products sold into the domestic market, as would be expected with a protected domestic market. As implementation of the ITA continued, however, this divergence between domestic and export prices of Japanese resistors disappeared. After 2001, Japan's domestic and export resistor price indexes roughly converge and show a similar pattern of movement.

71. Globally, robust economic conditions in the 1990s resulted in an explosion of demand for consumer electronics that, in turn, resulted in strong demand for resistors. However, economic growth slowed significantly in 2001, causing a corresponding decline in demand for resistors. According to U.S. Census Bureau figures, shipment values for resistors manufactured in the United States dropped from \$981.7 million in 2000 to \$712.9 million in 2001 – a 27% decline.

1 72. Amidst this weak economic climate, purchasers of resistors began applying
2 significant pressure on the industry to lower prices. Indeed, between 2001 and 2002, global prices
3 for resistors dropped a whopping 43% from \$0.0080 per unit to about \$0.0045 per unit.

4 73. This had a devastating impact on resistor manufacturers' profitability, forcing some
5 manufacturers to produce components at or below the cost of production. Facing significant losses,
6 manufacturers were forced to reduce work forces, consolidate, close plants, and reduce capacity.
7 During this period, many manufacturers of passive electronic components such as resistors were
8 operating at between 60 and 70% while vendors were "swimming in excess supply and fighting for
9 contracts" according to a 2002 EBN report.

10 74. Despite falling global prices for resistors, and even after resistors prices underwent a
11 sharp decline through 2000, both domestic and export prices for Japanese resistors roughly
12 stabilized—or even increased. As Figure 1 (above) demonstrates, from 2002 through early 2005,
13 resistor export prices increased by about 20% to a level coinciding with domestic resistor prices.
14 Japanese resistor prices, both domestic and for export, declined moderately from 2005 through the
15 end of 2006 before beginning a prolonged period of increase, followed by stability, through the end
16 of 2014. Indeed, the data shown in Figure 1 suggests an elevation in resistor prices of 20-25% over
17 2007-2014, compared with prices at the end of 2001.

18 75. Another consequence of this increased competition was the increased use by resistor
19 purchasers of online reverse auctions for passive electronic components such as resistors.
20 Unsurprisingly, the use of online reverse auctions was vigorously opposed by manufacturers such as
21 Defendants. Yet, given the market power of many resistors purchasers, pro-competitive practices
22 such as reverse auctions could only be squelched if the industry as a whole acted together.

23 **E. Defendants Conspire to Restrain Competition**

24 76. The rebound in Japanese resistor prices that occurred after 2002 followed by further
25 price increases after 2006 was the result of coordinated efforts among Japanese resistor
26 manufacturers to restrain competition and stabilize and increase resistor prices. Despite weak
27 economic conditions, Defendants had one thing going for them: purchasers of resistors were almost
28 always committed to inflexible production or delivery deadlines to their respective customers, and

1 accordingly could be forced to accept a price increase in order to avoid production delays or
2 customer dissatisfaction.

3 77. Thus, a plan was hatched. No later than 2003, if not earlier, Defendants agreed to
4 restrain competition to halt price erosion and maintain or increase prices. Defendants carried out the
5 conspiracy through regular collusive discussions under the auspices of the Japan Electronics and
6 Information Technology Industries Association (“JEITA”), as well as through discussions among
7 individual competitors. Defendants facilitated the coordination of their behavior and eliminated
8 competition through these regular meetings, which provided a ready mechanism for coordinating
9 behavior concerning current and future prices, capacity, costs, sales, forecasts, and in other
10 competitively sensitive areas.

11 78. When participating in conspiratorial meetings and discussions, the members of each
12 and every Defendant family named in this Complaint often did not distinguish among entities within
13 a particular corporate family. Indeed, generally, the minutes and records reflecting Defendants’
14 conspiratorial meetings – which span many years – regularly (but not always) reflect generic uses of
15 the Defendants’ corporate family names without distinguishing or recognizing differences between
16 corporate parents and subsidiaries. Employees from each of the Defendant families appear to have
17 attended the conspiratorial meetings on behalf of their entire corporate family, including their
18 respective U.S. subsidiaries. Accordingly, when the generic name of a Defendant corporate family
19 (and coconspirator corporate family) is used in these allegations, it reflects the generic and/or
20 otherwise non-specific use of the family’s name in the underlying evidentiary record (such as use of
21 codenames like “R. Co.” to refer to the ROHM family).

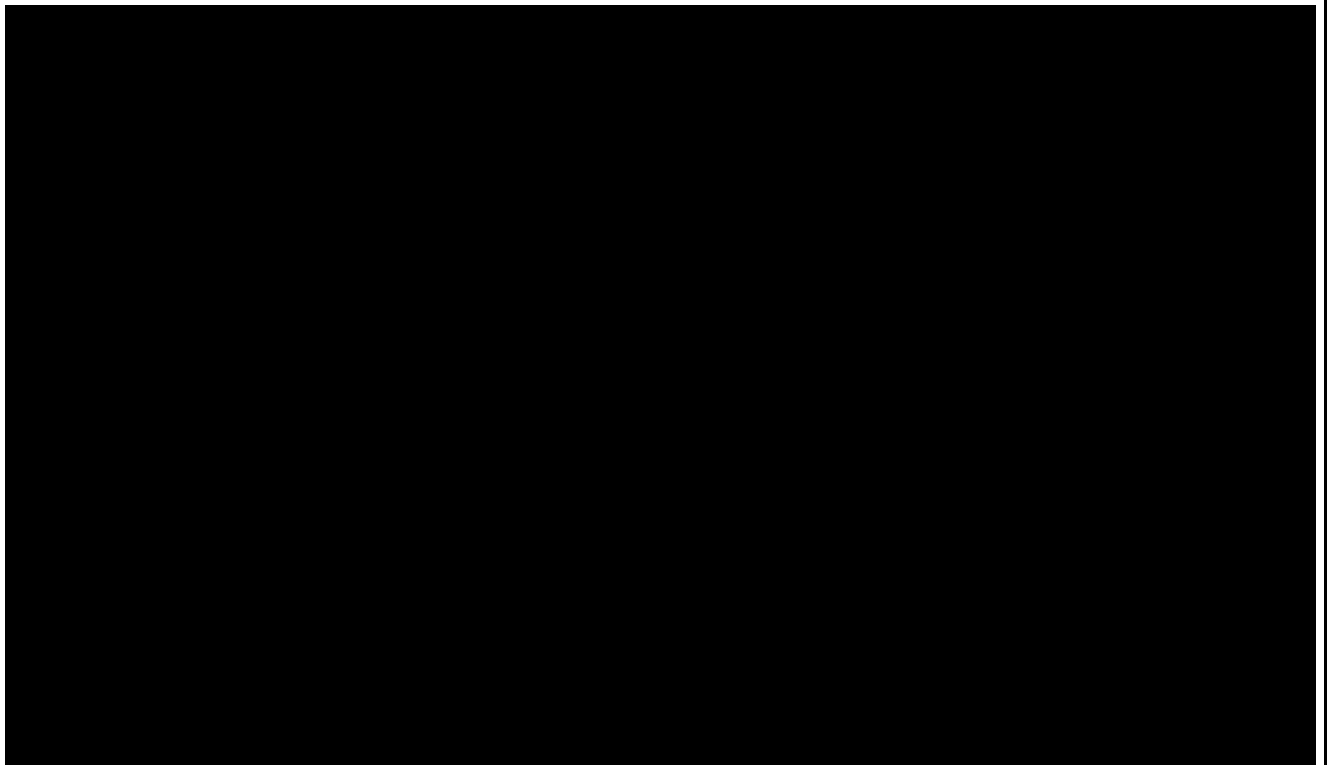
22 79. In one of the many examples of this, Panasonic’s Kamioka wrote in his notes
23 concerning a 2007 meeting among Defendants to “discuss coordination in resistor markets.” These
24 notes reflect a collusive discussion of highly-sensitive competitive information – including specific
25 resistor prices, sales volumes, production capacity, and market position – and refer to each and every
26 Defendant family using its generic name for the corporate family without distinguishing between
27 corporate parents and their subsidiaries. Kamioka labeled his email reporting this information,
28 “Same Industry Information (Confidential)” and instructed recipients to “handle with care.”

1 80. Defendants ROHM, Panasonic, HDK, and KOA entered the conspiracy to foster
2 cooperation, stabilize prices, and restrain competition in the linear resistors industry when employees
3 of ROHM, HDK Co., KOA, and Panasonic, as well as co-conspirator resistor manufacturers Alps
4 Electric, Midori Precisions, Susumu Co., and TOCOS Electric, attended a July 9, 2003 meeting of
5 JEITA's Passive Components Business Committee. At the meeting, participants agreed on a
6 procedure for facilitating coordination of industry behavior in their subsequent meetings. In order to
7 coordinate behavior and limit competition, each company would provide the others: (1) current sales
8 and changes in production of resistors, (2) business conditions judging from current orders received,
9 (3) market trends, "especially your company's strong markets," (4) product trends, (5) overseas
10 production status, meaning "your company's overseas production status, status of shift to overseas
11 production, export trends, overseas markets, etc.," (6) future outlook ("your company's estimated
12 forecast and outlook"), and (7) shared industry topics, including "domestic and foreign price
13 status[.]"

14 81. According to meeting minutes, Defendant ROHM attended subsequent Passive
15 Components Committee meetings in which participants facilitated their common scheme to reduce
16 competition through this procedure in June and July 2003, as well as March, May, July, and
17 November of 2004; Defendant Panasonic attended such meetings in September and November of
18 2003, and in January and March of 2004; Defendant HDK Co. attended and participated in
19 September 2003, and in January and March of 2004; Defendant KOA attended in November of
20 2003, and in January and March of 2004; and Defendant Kamaya Electric attended the January 2004
21 meeting.

22 82. Defendants' collusion continued within and outside the context of JEITA meetings
23 during and after 2004. Defendants participated in a summer 2006 meeting of JEITA's Passive
24 Components Business Committee, where Kamaya, Panasonic, ROHM, KOA, HDK, Kamaya, Sakae
25 Tsushin, Teikoku Tsushin, Taiyosha, Alps, and TOCOS met and exchanged monthly resistor sales
26 information, including sales as a percentage of the previous period, in order to coordinate their
27 market behavior. In early 2006, ROHM General Manager Hiroshi Kaida met privately at least three
28 times between January and April 2006 with competitor Panasonic.

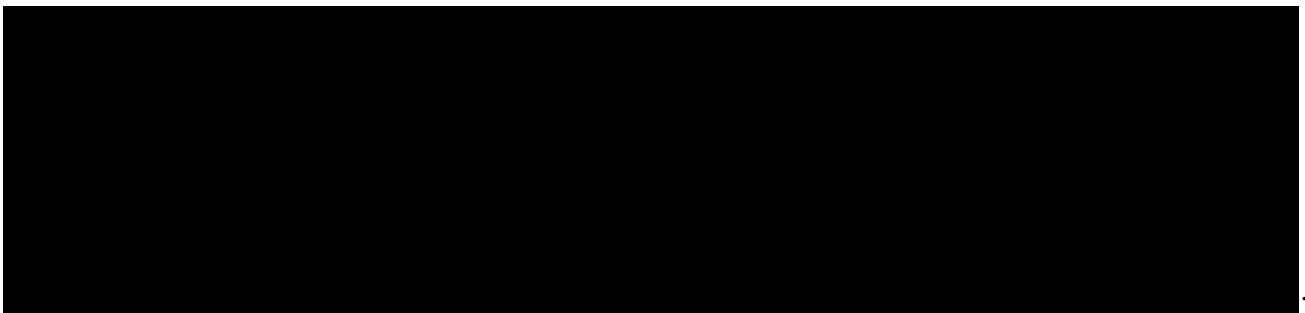
1 83. Collusive discussions included the exchange of price information for sales to
2 individual resistor customers. In late August 2006, Panasonic’s Yoshinori Hourai wrote to Yoshihiro
3 Hashimoto of Panasonic that both Panasonic and ROHM were seeking to sell resistors to Nokia, and
4 because Hourai had heard from another Panasonic employee that Hashimoto had directly exchanged
5 resistor price information with ROHM, he wanted to know if Hashimoto would check the price
6 information with ROHM this time as well. Hourai then listed his proposals for the prices that he
7 wanted Hashimoto to confirm with ROHM. Hourai wrote a later email to Panasonic Corp.
8 employees Minoru Sowa, Hiroaki Kamioka, and Hideki Matsushashi about pricing for Nokia.
9 “Yesterday, related to handling prices for Nokia, I had GM Hashimoto contact the person responsible
10 for General Global at R Co.” “R Co.,” as used in Hourai’s email, was code for competitor “ROHM.”
11 “The following comment came back from R. Co.: ‘We plan to raise prices to Nokia for the 1005
12 type [resistor].’” Hourai also relayed to his colleagues that he had learned that ROHM’s top
13 management had given instructions to review its pricing strategy for customers where ROHM was
14 not earning money due to soaring materials costs. In closing, Hourai warned recipients not to
15 forward his email.



1 86. ROHM and Panasonic executives continued to hold in-person and telephonic private
2 meetings throughout early 2007. In particular, ROHM's Kaida met privately with Panasonic on
3 January 25, April 3 (in a meeting that also included competitors Akira Nonomura of KOA Corp. and
4 Akihiro Katada of resistor manufacturer Taiyosha Electric), April 10, April 13, and April 23.

5 87. Defendants also continued to collude at JEITA meetings held in 2007. In May 2007,
6 Koichiro Nakagawa of Panasonic sent Panasonic's Hashimoto and Kamioka his notes for the
7 previous week's meeting of the JEITA Capacitor and Resistor Committee. Nakagawa reported that,
8 at the meeting, he "tried to ask about KOA's FY07 business plan, but the KOA representative told
9 Nakagawa that there were internal discussions not to share competitive information before the 5/26
10 Passive Components Committee Meeting." In anticipation of "shar[ing] competitive information" at
11 that meeting, Nakagawa told Hashimoto and Kamioka that he "would like to take some of your time
12 and hear your requests for information exchange and our public relations."

13 88. In a related email, Nakagawa reported to Kamioka that he, ROHM (through ROHM
14 Co. General Manager Ikeda), and KOA (via Director Hiromitsu Kitabayashi) discussed forming a
15 "Japanese federation" to respond to competition from Taiwanese resistor manufacturer Yageo.
16 Kamioka forwarded Nakagawa's report to Panasonic's Hideki Matsushashi and Hashimoto, stating
17 that he would ask ROHM's Hiroshi Kaida about Panasonic's reported plan to coordinate with KOA
18 and ROHM at the JEITA Passive Components Committee Meeting on the upcoming Friday.



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24 90. Panasonic employee Hiroaki Kamioka met with representatives of resistor
25 manufacturers HDK (Keiichi Shimada), KOA (Kunio Misawa, Hiromitsu Kitabayashi), ROHM
26 (Hiroshi Kaida), Taiyosha (Akihiro Katada, Senji Hibino), and Kamaya (H. Miura) to discuss
27 coordination in resistor markets and play golf from November 30 to December 1, 2007. Before the
28 meeting, Kamioka asked fellow Panasonic executive Yoshihiro Hashimoto if Hashimoto would

1 attend too. Hashimoto replied that he had “exchanged opinions with key members the other day, so
2 I’ll leave this time to you.” Notes taken by Panasonic’s Kamioka from the meeting reflect the
3 following collusive discussion of price, capacity, and market positioning exchanged with the goal of
4 coordinating the competitors’ behavior, [REDACTED]
5 [REDACTED] (the companies
6 are referred to in the underlying document as KOA, ROHM, Taiyosha, HDK, Kamaya, Panasonic,
7 and Walsin):

8 (1) Square chip [resistor] supply and capacity balance

- 9
- 10 • Does not have available capacity . . . KOA, HDK, Taiyosha
 - 11 • Has available capacity . . . ROHM, Kamaya
 - 12 • ROHM’s current sales are 180 million units/M

13 (2) Current status of microscopic chip

- 14
- 15 • As estimated from each company’s discussion, Panasonic is
16 believed to have the top production volume; ROHM around 1
17 billion; Kamaya, HDK and Taiyosha around 500 million each.
 - 18 • The bottom price is around 0.09 (HDK), Kamaya seems to have
19 stopped at around .10. All companies would have difficulty
20 making a profit at .09.
 - 21 • HDK is having technical trouble at Casio Hitachi.
 - 22 • ROHM and Kamaya have available capacity for supply. . . .
 - 23 • KOA is supplying 0402 to Taiwan Mo manufacturers.
 - 24 • HDK, Kamaya, and Taiyosha have around one customer each,
25 but regardless of volume, they have supply results. All
26 companies are aware that Panasonic is the leader.

27 (3) Kamaya information

- 28
- 29 • Working with Walsin, a Taiwanese company; they will mostly
30 continue to sell under the Kamaya brand.
 - 31 • Top management instructed them to always have 10% available
32 capacity in the production structure.

(4) Other

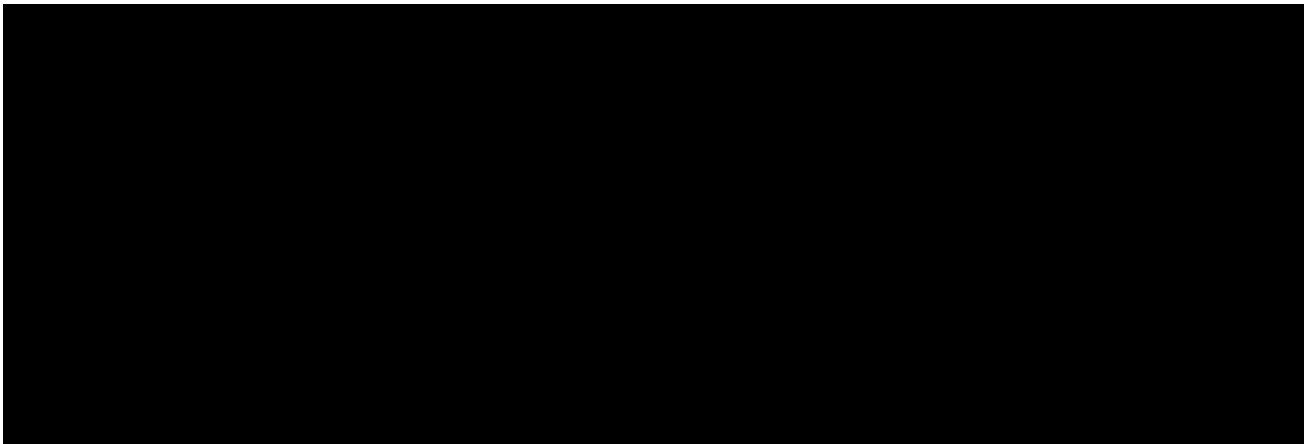
- KOA’s sales to Chinese EMS manufacturers are passive, and they aren’t profiting.

- HDK is quite interested in Panasonic ESD suppressors and will likely enter the market.

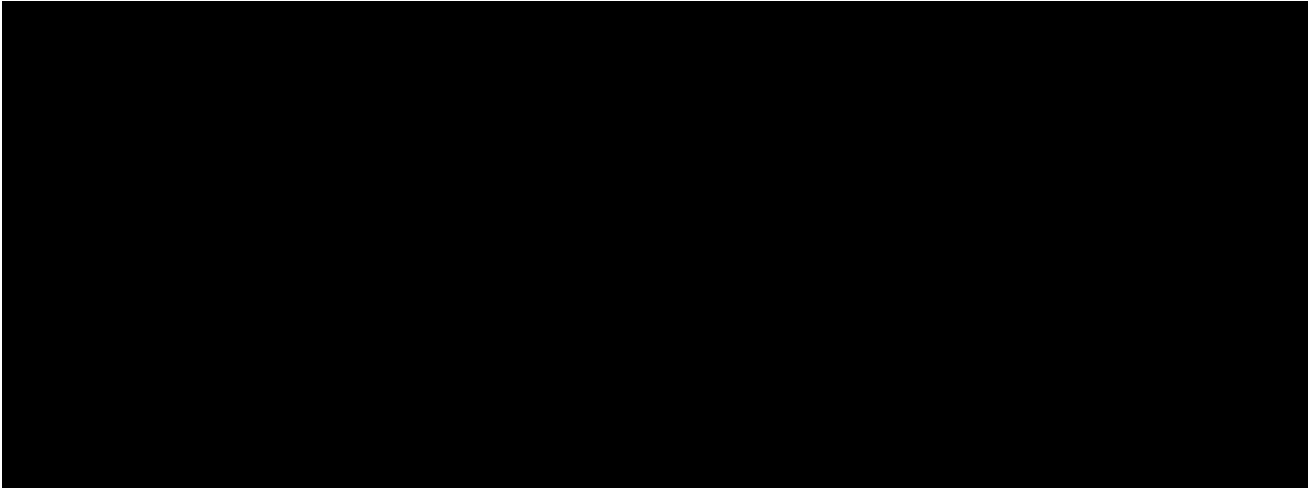
Kamioka labeled his email reporting this information to other Panasonic employees “Same Industry Information (Confidential),” and instructed recipients to “handle with care.”

91. On January 23, 2008, ROHM, KOA, Taiyosha, HDK, and Susumu participated in a JEITA “Passive Component Committee Resistor Information Exchange Meeting.” At the meeting, competitors engaged in further coordinating conduct by discussing market performance and product release plans for ROHM, HDK, KOA, Taiyosha, Susumu, and Panasonic. In January 2009, KOA Corp.’s CEO Koichi Mukaiyama, who was also the then-current Chairman of JEITA’s Passive Components Business Committee, acknowledged the ongoing discussion of resistor prices and competitive information at JEITA meetings, telling a meeting of KOA Corp.’s Board of Directors, “I am not supporting a violation of the antitrust law, but we (resistor companies) should not be cutting prices for the sake of receiving orders.”

92. On April 22, 2008, Yoshihiro Hashimoto of Panasonic sent Panasonic employees Kazuo Sakami, Koichiro Nojiri, and Nobuo Nakayami an email entitled “Confidential Competitor Information (KOA).” Hashimoto reported detailed information provided to him by KOA about KOA’s monthly production volume for carbon resistors, metal oxide resistors, and cement winding resistors, its strategies to supply foreign vs. domestic products, and KOA’s average sale price for carbon resistors. Separately, Hashimoto added that he also met with “R. Co,” code for “ROHM,” and reported information about ROHM’s domestic vs. foreign production of chip resistors.



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96. JEITA’s Passive Components Business Committee held a “Resistor Division Meeting” on July 10, 2008. Hiroshi Kaida of ROHM served as Vice Chairman, and Akira Nonomura and Kunio Misawa of KOA, Yoshinori Hourai of Panasonic Corp., Senji Hibino of Taiyosha Electric, Keiichi Shimada of HDK Co., Nakarai of Alps Electric, Yukihiro Fukudome of resistor manufacturer Sakae Tsushin, Shoji Sakamoto of resistor manufacturer Teikoku Tsushin, and Okamura of Midori Precisions were the attendees. According to the meeting minutes, “[a]ll attendees carried out information exchange.” On information and belief, the attendees held these collusive discussions according to the procedure for exchanging company-specific sales, pricing, capacity, supply, and other competitive information that was established by the Committee during its July 9, 2003 meeting.

97. Private meetings continued to supplement collusive group discussions at JEITA events. For example, Panasonic executive Yoshinori Hourai met with representatives of KOA on July 31, 2008 regarding carbon resistors. During the meeting, the KOA representatives informed Hourai that KOA planned to continue selling this type of resistor, in furtherance of their agreement to coordinate sales activities and avoid competition.

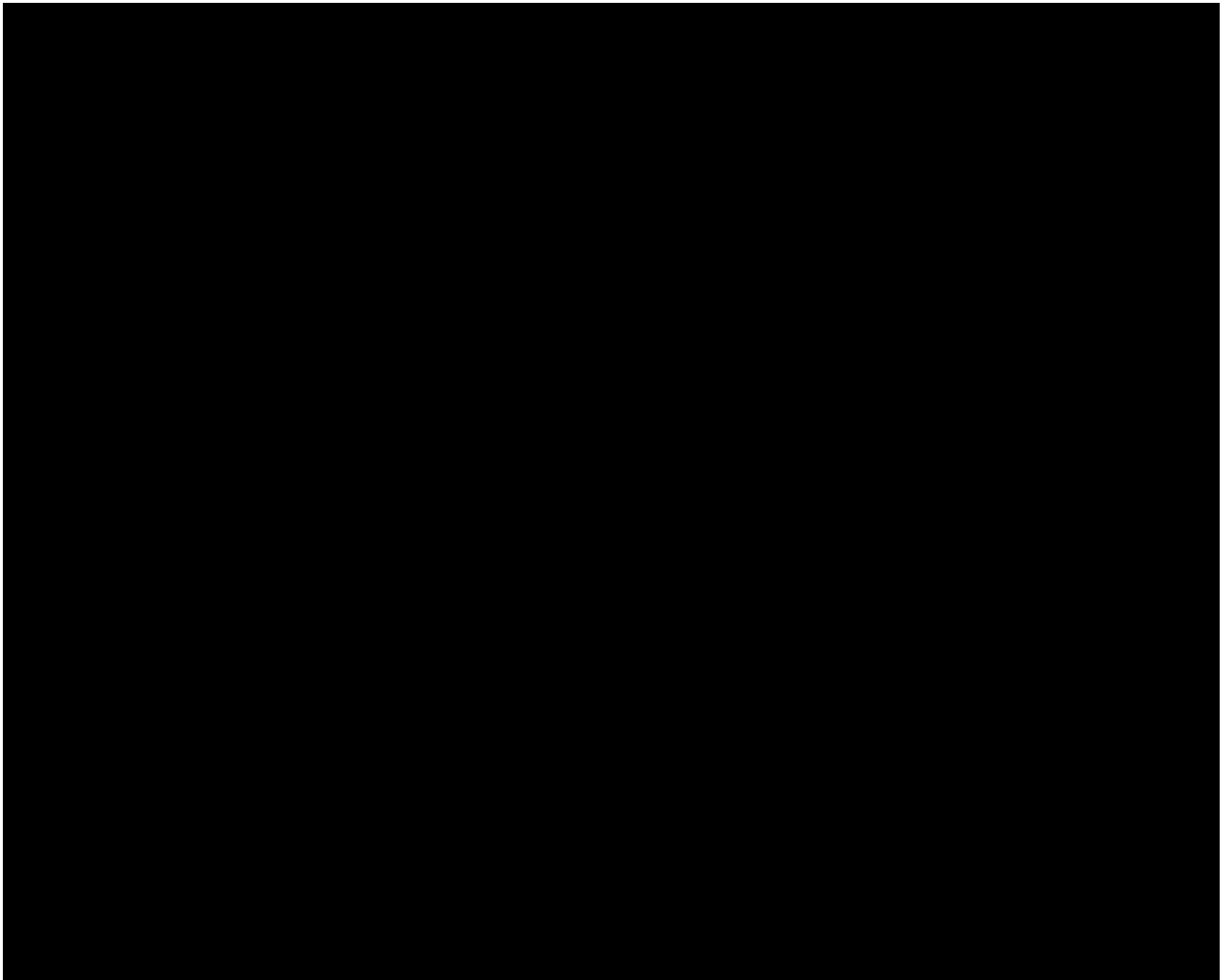
98. JEITA’s Passive Components Business Committee held a “Resistor Information Exchange Meeting” on August 27, 2008, attended by Akira Nonomura and Kunio Misawa of KOA Corp., a representative of Panasonic Corp., Keiichi Shimada of HDK Co., Yoshikazu Tamaki of ROHM Co., Nakarai of Alps Electric, Ogasawara of Alpha Electronics, Yukihiro Fukudome of Sakae Tsushin, Morimasa of Susumu Co., Senji Hibino of Taiyosha Electric, Shoji Sakamoto of

1 Teikoku Tsushin, Yoshida and Tsunekawa of Japan Resistor Manufacturing, and Okamura of Midori
2 Precisions. According to the meeting minutes, “[a]ll attendees carried out information exchange.” On
3 information and belief, the attendees held these collusive discussions according to the procedure for
4 exchanging company-specific sales, pricing, capacity, supply, and other competitive information that
5 was established by the Committee during its July 9, 2003 meeting. For example, ROHM, Panasonic,
6 HDK, KOA, Sakae Tsushin, Susumu Co., Teikoku Tsushin, Alpha Electronics, Taiyosha, and Alps
7 collusively exchanged company-specific sales performance as a percentage of first-quarter sales,
8 general performance by end product market and region, and planned price increases and price freezes
9 for resistors. KOA Corp. President Koichi Mukaiyama commented on rising material costs and the
10 need for resistor manufacturers to protect their business.

11 99. Continuing JEITA discussions led to continued exchange of price information as to
12 specific customers, and continued efforts to coordinate pricing strategies. Thus, in September 2008
13 Keiichi Shimada of HDK Co. and Panasonic’s Hourai corresponded about demand from specific
14 customers and the need to resist customer requests for price reductions. On September 1, Shimada
15 wrote to Hourai, “[t]hank you very much for the other day” (referring to an earlier meeting), and
16 asked for information about a resistor model requested by “A Co.” On information and belief, “A
17 Co.” was code for customer Apple, Inc., a U.S. corporation. Hourai responded with the requested
18 information and asked Shimada what HDK’s pricing was on a different resistor model, sharing that
19 Hourai expected that Panasonic’s customers would request \$0.09 per thousand pieces in October
20 and asking what HDK planned to do. Hourai further shared that Panasonic’s profits on the resistor
21 model are “not good” and that he wanted to stop price reductions.

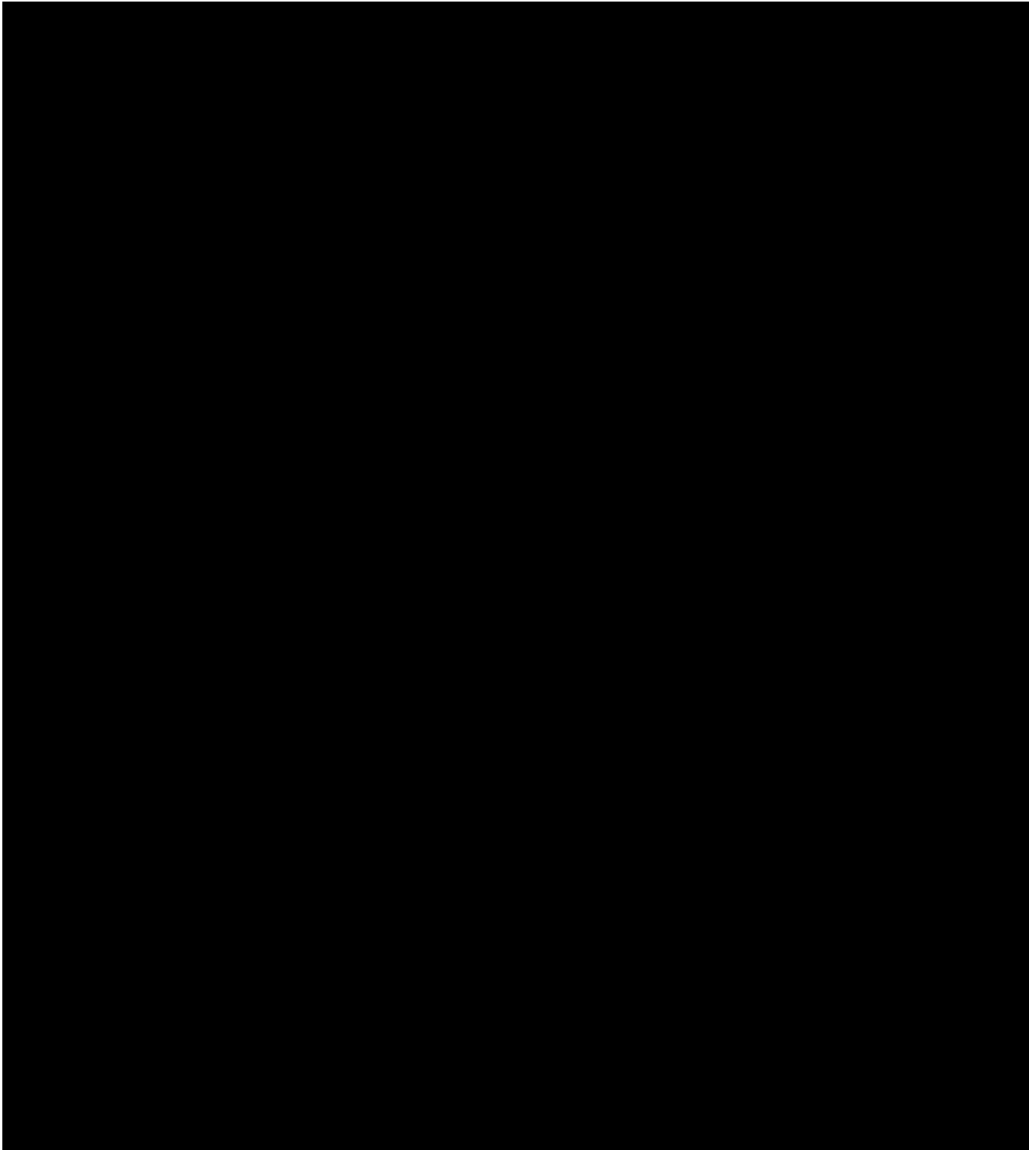
22 100. JEITA’s Passive Components Business Committee held a “Resistor Information
23 Exchange Meeting” on October 30, 2008, attended by ROHM Co. (represented by Osamu Maeda
24 and Hiroshi Kaida), KOA Corp. (Kunio Misawa), Panasonic Corp. (Yoshinori Hourai), HDK Co.
25 (Keiichi Shimada), Taiyosha (Senji Hibino), Alps Electric (Nakarai), and Midori Precisions
26 (Okamura). The minutes state that “[a]ll attendees carried out information exchange.” The meeting
27 involved coordinating discussions and presentations, including presentations by competitors HDK
28 Co., KOA Corp., Taiyosha, Midori Precisions, Alps Electric, and ROHM Co.’s performance in

1 comparison to previous years. The next day, Panasonic Corp.’s Yoshihiro Hashimoto and Yoshinori
2 Hourai, KOA Corp.’s Akira Nonomura and Kunio Misawa, ROHM Co.’s Hiromichi Katafuchi and
3 Hiroshi Kaida, HDK’s Kazuo Nomura and Keiichi Shimada, and Taiyosha’s Akihiro Katada and
4 Senji Hibino attended a resistors meeting in Nagoya, Japan, from October 31 until November 1,
5 2008. Attendees held another collusive “information exchange meeting” on October 31 and
6 participated in a golf session on November 1, providing further opportunities for collusive
7 discussions.



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24 103. In January 2010, Motorola – a purchaser of resistors – initiated an e-bid process to try
25 and obtain a supplier. In response to this initiative, KOA indicated that such online auctions were
26 not acceptable in the industry. Specifically, KOA Speer’s Jeff Rice emailed his team that, “Motorola
27 never learns from history. I remember they did the auction during the last shortage and suppliers
28

1 raised prices. Motorola is a small fish in a big pond. What the heck do they think they are doing?
2 Wow cannot believe they are doing this.”



26 106. ROHM, HDK, KOA, Taiyosha, Alps, Sakae Tsushin, and Teikoku Tsushin
27 participated in a January 20, 2010 JEITA meeting in which all companies presented competitively
28 sensitive sales information, including by specific end-product. For example, ROHM reported to its

1 competitors that its December results were up 40-50% compared to the previous year, and around
2 80% of 2007 sales, and that ROHM's sales in the television and notebook PC end-product markets
3 were favorable. KOA reported its sales had returned to 85% of 2007, sales for vehicles were at 90%
4 compared to 2007, the flat TV market was favorable, and that KOA's delivery periods for chip
5 resistors and resistors with leads were tight. All of this discussion facilitated coordination among the
6 meeting attendees.

7 107. Yoshinori Hourai of Panasonic met privately with a KOA representative on May 8,
8 2010 to further coordination between the two firms in the market for carbon resistors.

9 108. ROHM, KOA, and Taiyosha collusively provided their projected peak sales of
10 resistors and their respective performances in resistor end-product markets at August 25, 2010
11 meetings of JEITA's Passive Components Committee and Resistors Committee, which were also
12 attended by Teikoku Tsushin, Alps, Panasonic, Sakae Tsushin, HDK, and Susumu Co. At the same
13 meeting, Panasonic presented a chart showing its first quarter 2010 to fourth quarter 2010 actual and
14 projected growth rates compared to the growth rates of other JEITA members. KOA gave an update
15 on its expectations of resistor market performance in North America and Europe with the goal of
16 coordinating behavior among participants. Susumu Co. presented on its quarterly performance in
17 comparison to previous years in chip resistor sales. Panasonic presented a chart showing its first
18 quarter 2010 to fourth quarter 2010 growth rates compared to the average growth rate of JEITA
19 members and of JEITA's largest member.

20 109. Panasonic attended a meeting of the JEITA Resistors Committee in November 2010,
21 where Panasonic and other meeting participants took further steps to coordinate their market
22 behavior by presenting updates on their performance in target end-markets such as television sets,
23 notebook PCs, vehicles, and cell phones.

24 110. ROHM's Hiroshi Kaida, Panasonic's Hourai, KOA (Kunio Misawa and others), HDK
25 Co. (Akio Nomura, Keiichi Shimada), Taiyosha (Akihiro Katada, Yoshida), and other resistor
26 manufacturers participated in JEITA Passive Components Committee and Resistors Working Group
27 meetings on January 19, 2011. During the Working Group meeting, participants furthered their
28 scheme to reduce competition and coordinate behavior by providing their sales percentages

1 compared to the previous quarter, the resistor models manufactured by each company, expected
2 market volume by region, and performance by end product market.

3 111. KOA, HDK, Taiyo Yuden, Sakae Tsushin, and Susumu Co. presented forecasts for
4 each company's resistor sales for the remainder of the year during a February 19, 2011 meeting of
5 the Resistors Working Group of JEITA's Passive Components Committee, in order to enable
6 participants to coordinate their market behavior. For example, KOA reported that it expected peak
7 sales in July and that its December sales would be 10% lower than its July sales.

8 112. During an August 2011 meeting of the JEITA Passive Components Committee,
9 ROHM, KOA, Taiyosha, and HDK engaged in detailed discussions of each company's sales
10 information. For example, ROHM disclosed that its resistor sales to the European automotive end-
11 markets were favorable, KOA revealed that its sales had worsened generally, and HDK indicated that
12 its sales were struggling. Resistor sales information was compiled in charts comparing Q1-Q4 HDK,
13 Panasonic Corp., KOA, Taiyosha, and ROHM resistor sales as a percentage of the previous period,
14 enabling the competitors to coordinate their market behavior. [REDACTED]

15 [REDACTED]
16 113. KOA, HDK, and other resistor manufacturers participated in a JEITA Passive
17 Components Committee meeting and Resistors Working Group meeting on January 26, 2012.
18 During the meeting, Defendants discussed their intention to target the vehicle and smartphone end-
19 markets for resistor sales. KOA and HDK disclosed their outlook for resistor sales during the coming
20 fiscal year as compared to previous years, and the effect of recent flooding in Thailand on HDK's
21 and other manufacturer's factories, enabling further coordination.

22 114. KOA Corp. (General Manager Kitabayashi), Panasonic Corp. (Group Manager
23 Kuwada or Kuwata), Alps Electric (General Manager Taniguchi), and HDK Co. (Osaka Sales Office
24 Director Nogawa) attended a two-hour meeting of JEITA's Capacitor and Resistor/General
25 Components Committee on May 18, 2012. At the meeting, all four companies' representatives
26 sought to facilitate coordination between the firms by presenting on their FY 2011 sales amounts,
27 profit and losses, and current sales information, breaking out current performance data by end
28

1 product type, effects of the 2011 earthquake in Japan, effect of exchange rates on sales, and other
2 competitive information.

3 [REDACTED]
4 [REDACTED]
5 [REDACTED]
6 [REDACTED]
7 [REDACTED]
8 [REDACTED]
9 [REDACTED]
10 [REDACTED]

11 116. Despite these concerns, employees of KOA, Panasonic, and other companies
12 participated in a July 31, 2013 JEITA meeting in which KOA disclosed to its competitors detailed
13 information on KOA's second-quarter sales performance in comparison to the previous period, in
14 furthering their agreement to eliminate competition. [REDACTED]

15 [REDACTED]
16 [REDACTED]
17 [REDACTED]

18 117. [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 [REDACTED]

22 118. On October 23, 2013, Kamaya Electric's President (Susumu Fujimoto), Marketing
23 General Manager (Nakano), and two other representatives of Kamaya Electric met with Panasonic's
24 Yoshinori Hourai. During the meeting, Kamaya Electric shared its total capacity and orders received
25 in furtherance of their scheme to facilitate coordination and reduce competition.

26 119. [REDACTED]
27 [REDACTED] o

1 [REDACTED]
2 [REDACTED]
3 120. As of June 2014, KOA had recognized that its collusive discussions with competitors
4 violated the antitrust laws, and that it was too late to fix its past mistakes. During a June 16, 2014
5 meeting of KOA's Board of Directors concerning "[t]he guidelines for global antitrust laws,"
6 Manager Yajima noted that KOA was "in the process of addressing anti-trust related risk in our
7 regulations. Since we do not have much time, as the risk has already materialized, the Import
8 Control Center and General Affairs Center will be hastily putting together the actions to be taken by
9 the KOA Group companies." Director Kayoko Fukano added, "I realize the situation is becoming
10 serious, and we cannot get away by saying '[w]e did not know.' Business practices we are so
11 accustomed to may no longer be deemed legitimate activities." [REDACTED]

12 [REDACTED]
13 [REDACTED]
14 121. By July 2014, JEITA's leadership also had become aware that its activities violated
15 the antitrust laws. During that month, JEITA distributed a handout to its members (including
16 Panasonic) announcing an internal investigation into creating an antitrust compliance structure. A [REDACTED]

17 [REDACTED]
18 [REDACTED] Electronic Components Working
19 Group announced plans to look into current antitrust compliance issues arising from its activities.

20 **F. The U.S. Subsidiary Defendants Participated in Defendants' Conspiracy**

21 122. The conspiracy was organized at the highest level of the Defendant families, and
22 carried out by both executives and subordinate employees, with the foreign corporate parent of each
23 Defendant family using the U.S. subsidiaries to implement, effectuate, and achieve the cartel's aims
24 and purposes. This included conspiratorial conduct by high-level employees of the Defendant foreign
25 parent corporations and conspiratorial conduct by employees of the Defendants' U.S. subsidiaries. It
26 also included the parent companies' control over the prices set by the U.S. subsidiaries, and the
27 communication, from parents to subsidiaries, of confidential information learned by the parents from
28 employees of other Defendants and coconspirators. For instance, employees of the parent

1 corporations regularly sent JEITA meeting reports to employees of their U.S. subsidiaries. [REDACTED]

2 [REDACTED]

3 [REDACTED]

4 123. Additionally, employees of the Defendant families participated in the conspiratorial
5 discussions and meetings and entered into agreements on behalf of, and reported these meetings and
6 discussions to, their respective corporate families including their U.S. affiliates. Defendants'
7 employees and executives regularly used generic forms of each Defendant family's name in the
8 course of furthering the conspiracy and only occasionally made known to other participants at
9 conspiratorial meetings distinctions between the corporate entities within their corporate families
10 whose interests they were representing. Accordingly, individual participants in the conspiratorial
11 meetings and discussions did not always know the specific corporate affiliation of their counterparts.
12 As a result, each Defendant's entire corporate family was represented in meetings and discussions by
13 their agents and was party to the agreements reached in those meetings.

14 124. Moreover, each Defendant family's corporate parent dominated and controlled the
15 finances, policies, and business decisions of their various subsidiaries, including the U.S.
16 subsidiaries. That dominance included, for example, the parent companies' ultimate control over the
17 prices set by the U.S. subsidiaries. What follow are just a few representative examples:

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 [REDACTED]

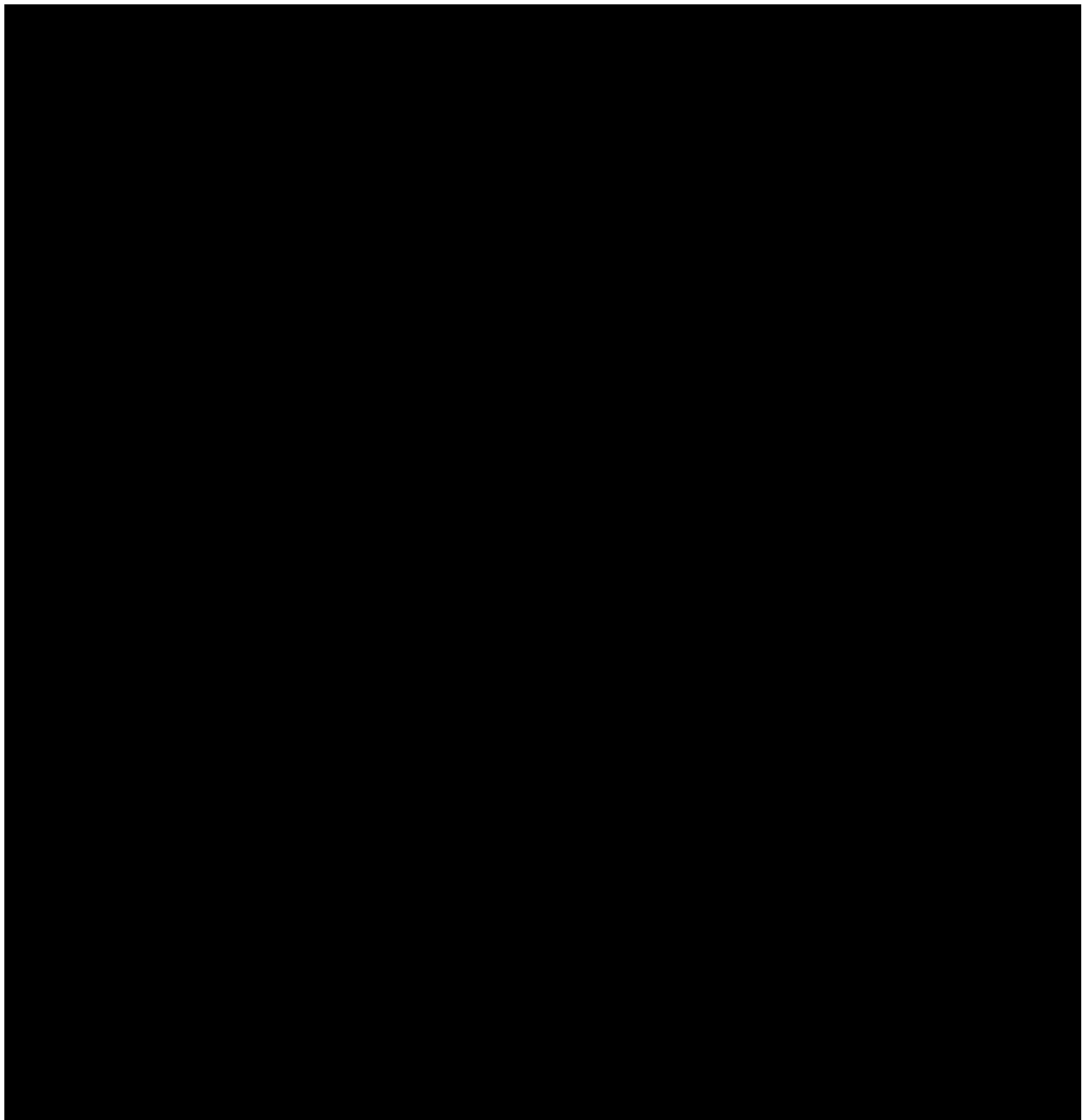
25 [REDACTED]

26 [REDACTED]

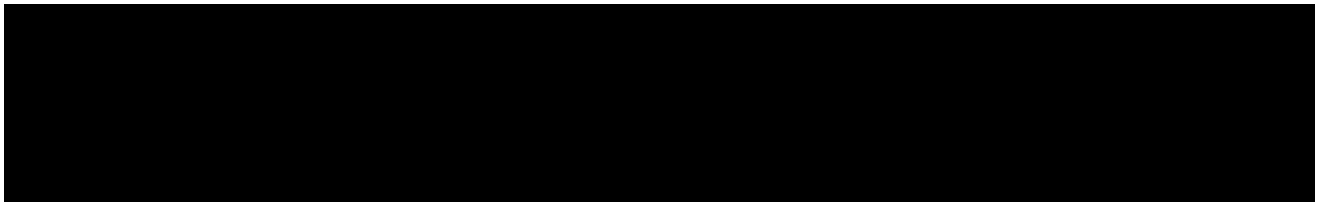
27 [REDACTED]

28 [REDACTED]

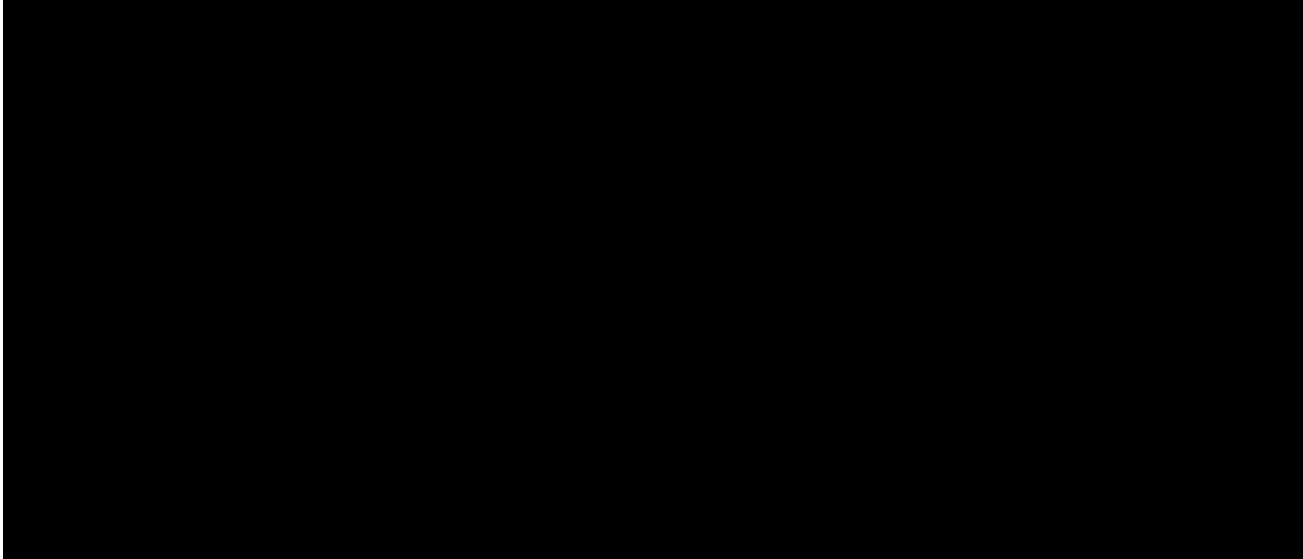
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125. The U.S. subsidiary of each and every Defendant family performed functions at the direction of, and was controlled by, the foreign-based Defendant parent's officers and managers. As a means of control, the Defendant foreign parent corporations "seconded" their employees to their U.S. subsidiaries so that these employees could act a conduit for the parents' decisions and conspiratorial agreements and implement them at the subsidiary level.



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127. Other employees of Defendants with resistors-related responsibilities who were seconded to the United States during the Class Period include, but are not limited to, [REDACTED]



128. Finally, employees of the Defendant foreign corporations also maintained control over their U.S. subsidiaries, and the policies and pricing of each, by sitting on boards of the U.S. subsidiaries.

G. Defendants’ Collusive Discussions Were Intended to, and Did, Further Their Agreement to Stabilize Resistor Prices

129. Defendants’ discussions exhibited the characteristics of collusion among competitors that creates and furthers a conspiracy to stabilize prices and reduce competition.

1. The Type of Information Discussed Was Highly Competitively Sensitive, Enabling Collusion and Market Impact to the Benefit of Defendants and the Detriment of Class Members

130. Particular types of data exchanges are more likely than others to reduce strategic uncertainty in the market and facilitate coordination among competitors. Strategic information relates to current or future prices, capacity, costs, sales, forecasts, customer information, marketing plans, and actual and planned investments, among others. This competitively sensitive information is not

1 the type of information that would normally be exchanged by companies that are actually competing
 2 with each other, since exchange of this information provides important advantages to a true
 3 competitor. The fact that the communications among Defendants involved this type of information
 4 indicates that the purpose was to coordinate behavior rather than to compete more effectively.

5 131. The collusive discussions alleged in Section E, *supra*, demonstrate Defendants'
 6 regular collusive exchange of competitively sensitive information. To highlight just three
 7 representative instances from the many examples noted above:

- 8 • Defendants ROHM and Panasonic exchanged price information for
 9 the sale of resistors to customer Nokia. As reported by the
 10 Panasonic employee who received Nokia's price information,
 11 "[y]esterday, related to handling prices for Nokia, I had GM
 12 Hashimoto contact the person responsible for General Global at R
 13 Co." "R Co.," as used in Hourai's email, was code for competitor
 14 "ROHM." "The following comment came back from R. Co.: 'We
 15 plan to raise prices to Nokia for the 1005 type [resistor].'"
- 16 • During a November 2007 meeting of JEITA's Resistor Committee,
 17 Defendants KOA, ROHM, HDK, and Kamaya exchanged detailed
 18 competitive information about each company's supply and capacity
 19 of square chip resistors, production volumes, technical production
 20 capacity, and profitability in specific markets.
- 21 • Defendants KOA Corp., Panasonic Corp., ROHM Co., HDK Co.,
 22 and co-conspirators Alps Electric and Susumu Co. exchanged
 23 company-specific competitive information, including sales
 24 performance as a percentage of first-quarter sales, general
 25 performance by end product market and region, and planned price
 26 increases and price freezes for resistors, during a "Resistor
 27 Information Exchange Meeting" on August 27, 2008.

28 132. Defendants carried out regular collusive discussions in meetings hosted by JEITA,
 which provided Defendants with both a consistent forum for these discussions as well as a
 mechanism for ensuring compliance with the conspiratorial agreement by all competitors. As early
 as July 2003, Defendants agreed to promote cooperation and reduce competition through JEITA
 meetings involving the regular exchange of strategic information among competitors, enabling co-
 conspirators to coordinate their behavior with the overall effect of reducing competition and
 stabilizing resistor prices.

1 **2. Communications Frequently Occurred in Private Settings Rather than Publicly**

2 133. Information shared through communications among competitors is considered private
3 rather than public when such information is not equally available to all market participants. Private
4 sharing of information among competitors is more likely to occur in order to coordinate behavior
5 among parties.

6 134. The collusive discussions alleged in Section E, *supra*, demonstrate that Defendants
7 regularly exchanged competitively sensitive information in private settings that were not accessible
8 to non-members of the conspiracy. These settings included meetings of JEITA's Passive
9 Components Business Committee and its Resistors subcommittee, which were not made publicly
10 available and were used to facilitate and provide cover for the exchange of competitively sensitive
11 information. For example, JEITA hosted a "Passive Component Committee Resistor Information
12 Exchange Meeting" in January 2008, in which Defendants ROHM, KOA, and HDK shared market
13 performance and resistor product release plans for each of their companies.

14 135. As alleged in Section E, *supra*, collusive discussions between Defendants also
15 occurred via email and in private, in-person meetings. For example, HDK Co.'s Keiichi Shimada
16 and Panasonic's Hourai provided pricing of specific resistor models and their intentions to stop price
17 reductions in September 2008. Similarly, KOA Corp. representative Akira Nonomura met privately
18 with Hiroshi Kaida of ROHM, Director Akihiro Katada of Taiyosha Electric, and Yoshihiro
19 Hashimoto of Panasonic on April 3, 2007 to foster coordination among their respective firms.

20 **3. Conspirators Exchanged Company-Specific Information**

21 136. The more individualized the information communicated as to specific firms' prices,
22 quantities, and customers, the more the information enables competitors to identify and coordinate
23 each other's behavior.

24 137. As alleged in Section E, Defendants' discussions involved highly specific
25 information, enabling them to coordinate their activities. For example, during the January 2012
26 meeting of JEITA's Passive Components Committee and Resistors Working Group, KOA, HDK,
27 and other resistors manufacturers discussed their intention to target the vehicle and smartphone end-
28 markets for resistor sales, and KOA and HDK disclosed their projected resistor sales. In an August

1 2008 Resistors Working Group Meeting, ROHM Co., Panasonic, HDK Co., and KOA Corp.
2 representatives exchanged company-specific sales volumes and discussed planned price increases for
3 resistors. And in September 2006, Panasonic and ROHM representatives privately discussed their
4 companies' intentions to raise prices for a specific resistor model.

5 **4. The Information Shared Described Current and/or Future Behavior**

6 138. Communicating current information or future projections is likely to facilitate
7 coordination among competitors. The more recent the information exchanged, the easier it is for a
8 competitor to determine another competitor's current or future conduct, and the more useful the
9 information is to coordinate their behavior and to monitor for potential deviations from the
10 conspiratorial agreement.

11 139. As alleged in Section E, Defendants routinely discussed current and/or future
12 competitive information. For example, ROHM Co., Panasonic Corp., HDK Co., and KOA Corp.
13 representatives met and exchanged company-specific – including for ROHM, Panasonic, HDK, and
14 KOA – current sales volumes and discussed future price increases for linear resistors during an
15 August 27, 2008 JEITA Resistors Working Group meeting. HDK Co. and Panasonic executives
16 discussed plans to increase prices on a specific linear resistor model in September 2008. During a
17 meeting of JEITA's Capacitor and Resistor/General Components Committee in May 2012,
18 Panasonic Corp., KOA Corp., and HDK Co. representatives presented on their companies' respective
19 FY 2011 sales amounts, profit and losses, and current sales information, breaking out current
20 performance data by product type (including resistors), effect of exchange rates on sales, and other
21 company-specific data, enabling other competitors to adjust their behavior accordingly in response to
22 this information.

23 **5. Direct Communications Occurred Frequently and for More Than a Decade**

24 140. The more frequently competitors communicate competitive information to each other,
25 the more likely it is that they are using the information to coordinate behavior because frequent
26 communications enable competitors to intentionally coordinate their behavior and monitor
27 compliance with the conspiracy.

28

1 141. As alleged in Section E, Defendants' collusive discussions occurred on a frequent
2 basis. For example, ROHM, Panasonic, HDK, and KOA met and exchanged competitive
3 information in no fewer than five JEITA-sponsored forums occurring in 2008 alone. From 2003 to
4 2014, JEITA's Passive Components Business Committee and Resistors Working Group provided
5 regular meetings and forums that Defendants used to exchange competitive information. These
6 JEITA meetings were interspersed with one-on-one meetings and communications, such as when
7 Yoshinori Hourai of Panasonic met privately with a KOA representative on May 8, 2010, to discuss
8 carbon resistors, or when Keiichi Shimada of HDK Co. and Panasonic's Hourai exchanged emails on
9 September 1, 2008, in order to coordinate their response to requests from customers to reduce
10 resistor prices.

11 **6. Senior-Level Executives Participated in the Collusive Discussions**

12 142. Senior employees are generally expected to be more aware than junior employees,
13 through company-sponsored anti-trust trainings as well as from general experience, that sharing
14 competitively sensitive information with competitors is anticompetitive. Senior employees are also
15 more likely able to commit the company to collusive conduct or agreements than their juniors. Thus,
16 when collusive discussions occur among senior employees, this often indicates the existence of a
17 conspiracy.

18 143. Virtually all of the conduct alleged in Section E was undertaken by management-level
19 employees or higher. For example, ROHM General Manager Hiroshi Kaida also served as Vice
20 Chairman of the JEITA Passive Components Business Committee and participated frequently in the
21 collusive discussions alleged in Section E. Akira Nonomura (KOA Corp.) became a Managing
22 Director in December 2009, and Kazuo Nomura (HDK Co.) was a Director since at least 2004, as
23 well as a Sales Manager. All three individuals, among others identified in Section E who held
24 Manager or Director-level positions, played principal and frequent roles in furthering the conspiracy.

25 **7. Lack of Oversight or Safeguards**

26 144. Direct communications among competitors have a high likelihood of being an
27 effective means to coordinate behavior. Direct competitor communications are even more likely to
28 be collusive when they occur without the supervision of an attorney.

1 145. Here, Defendants freely exchanged competitive information directly with one another
2 without the presence of an attorney. Private emails and meetings gave rise to collusive discussions.
3 For example, ROHM and Panasonic employees corresponded privately about ROHM's "plan to raise
4 prices" charged to customer Nokia. Panasonic and HDK corresponded by email, with no attorney
5 copied, about forecasted 2008 sales and market share of HDK, Panasonic, and other firms.

6 146. Similarly, although HDK, Panasonic, KOA, and ROHM regularly shared company-
7 specific information in and around JEITA Resistors Working Group and Passive Components
8 Committee meetings, the records of these meetings do not reflect the presence of an attorney.
9 Indeed, by July 2014, JEITA's leadership had become aware that its activities violated the antitrust
10 laws. During that month, JEITA distributed a handout to its members (including Panasonic)
11 announcing an internal investigation into creating an antitrust compliance structure. In particular, the
12 Electronic Components Working Group announced plans to look into current antitrust compliance
13 issues arising from its activities.

14 147. Defendants ultimately recognized that their collusive discussions violated the antitrust
15 laws, with JEITA announcing an internal investigation into its antitrust compliance policies,
16 particularly in its Electronic Components Working Group, and KOA's Board of Directors candidly
17 acknowledging that "[b]usiness practices we are so accustomed to may no longer be deemed
18 legitimate activities," and that it "we cannot get away by saying '[w]e did not know.'"

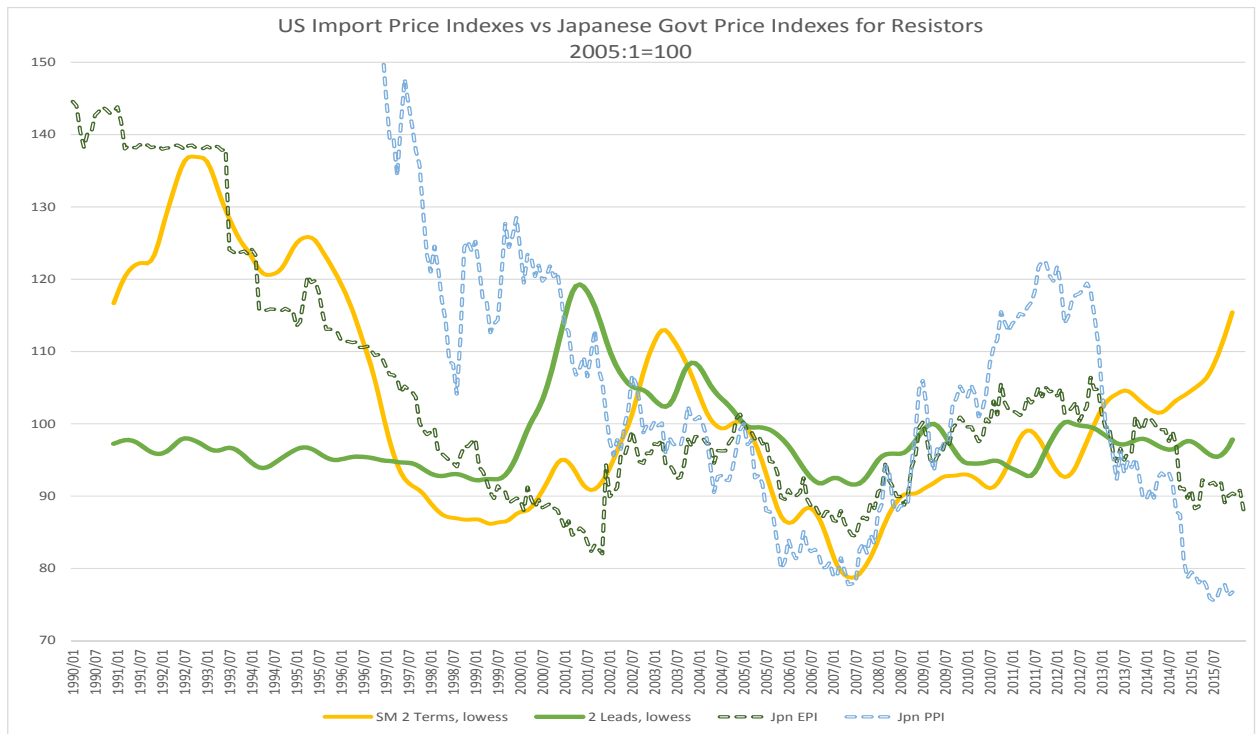
19 148. By July 2014, JEITA's leadership also had become aware that its activities violated
20 the antitrust laws. During that month, JEITA distributed a handout to its members (including
21 Defendants) announcing an internal investigation into creating an antitrust compliance structure. In
22 particular, the Electronic Components Working Group announced plans to look into current antitrust
23 compliance issues arising from its activities.

24 **H. Defendants' Conspiracy Worked: Prices Stabilized and Profitability Returned**

25 149. Defendants' conspiracy had its intended effect. As shown in Figure 1, *supra*, the
26 conspiracy successfully halted the decline in the price of Japanese resistors, and even achieved price
27 increases above the pre-conspiracy levels.

28

1 150. Defendants' conspiracy also succeeded in stabilizing and increasing the prices of
 2 resistors purchased by United States original equipment manufacturers. Figure 2 below shows the
 3 United States resistor import price indexes for the two largest subcategories of imports, which are
 4 corroborated by the most available data among all United States resistor imports – surface mount
 5 resistors with 2 terminals (solid gold), and through hole resistors with two leads (solid green).
 6 Dashed lines representing the Japanese export and producer price indexes have been superimposed.



151. This data is based on publicly available information that may be confirmed by price and export data in Defendants' possession. However, even this limited data shows that the Japanese and US import price indexes demonstrate declining prices through the late 1990s, stabilization or apparent elevation around 2002-2003, followed by some decline through 2006, and a significant increase after 2006. This pattern is consistent with the time period of Defendants' collusion alleged in Section E.

1 **VII. CHARACTERISTICS OF THE RESISTORS MARKET**

2 152. The structure and characteristics of the resistors market is particularly conducive to a
3 price-fixing agreement, rendering allegations of collusion particularly plausible. These factors are
4 discussed below.

5 **A. Industry Concentration**

6 153. A high degree of concentration facilitates coordination among co-conspirators. The
7 fewer competitors in a market, the easier it is for those competitors to collude. The resistors market
8 is highly concentrated.

9 154. Defendants are the dominant players in the resistors market. For example, in 2003,
10 Defendants KOA, ROHM, Kamaya, HDK, and Panasonic held approximately 51% of the market for
11 linear resistors. Their market shares have remained fairly stable for more than a decade.

12 155. Defendants possessed sufficient market share to impose price increases and ensure
13 price stabilization during the Class Period.

14 **B. High Barriers to Entry**

15 156. The presence of significant entry barriers to potential competitors that could otherwise
16 cause the incumbents to reduce their prices helps facilitate coordination among co-conspirators.

17 157. Companies seeking to manufacture and sell resistors, without having any prior
18 involvement in the resistors market, face various significant barriers to their entry. Thus, those
19 fringe companies producing resistors could not sufficiently ramp up production to become large
20 enough to undermine Defendants' conspiracy.

21 158. The barriers to entry for new market participants are quite high. Barriers to entry into
22 the resistors markets include: (i) patents; (ii) high research and development costs; (iii) capital costs
23 to build a manufacturing facility; (iv) investments in machinery and production lines; and
24 (v) maintenance of a sizable sales, marketing and technical support organization.

25 159. Defendant KOA acknowledged the difficulty of entering into new resistor segments
26 stating in its business minutes, "Trying to do something new is much more difficult than I originally
27 thought, because of existing patents."
28

1 160. Likewise, leading resistors manufacturers have reported spending between 4-6% of
2 revenue on research and development – the equivalent of millions if not hundreds of millions of
3 dollars a year.

4 161. New market entrants would need substantial start-up capital – exceeding hundreds of
5 millions of dollars – in addition to access to production technology, raw materials, and sufficient
6 supply chain commitments to warrant such a significant outlay of capital.

7 162. The resistors manufacturing industry is a mature one dominated by established
8 corporations, most having multinational operations, global market reach, and diverse product
9 portfolios of all types of passive electrical components. These companies – Defendants here – have
10 significant experience in the global resistors industry and established reputations with both sellers of
11 raw materials and purchasers of finished resistors. These companies typically have access to
12 significant financial resources that allow them to commit the capital necessary to bring online new
13 fabrication operations and facilities or to expand/retrofit existing ones to meet and exceed market
14 demand and adjust to technological changes. This readily available access to capital also permits
15 manufacturers like Defendants the ability to establish and secure necessary supply chain
16 commitments for all raw materials they require. Defendants are all established manufacturers in the
17 resistors industry.

18 **C. Inelastic Demand**

19 163. Price elasticity of demand is the measure of responsiveness in the quantity demanded
20 for a product as a result of change in price of the same product. Inelastic demand is a market
21 characteristic that facilitates collusion, allowing producers to raise their prices without triggering
22 customer substitution and lost sales revenue. Inelastic demand is another indicator that a price-fixing
23 conspiracy would be successful.

24 164. As set forth above, resistors are critical to the manufacture of certain types of
25 electrical circuits used in electronic devices. Defendant KOA’s own internal documents
26 acknowledge that chip resistors are “the building block of almost all electronic circuits” and are used
27 to improve the reliability and functionality of electrical components through the creation and
28 maintenance of an optimal level of current.

1 165. When there are few or no substitutes for a product, purchasers have little choice but to
2 pay higher prices in order to produce their product. Because OEMs, circuit assemblers, and third-
3 party distributors regularly have inflexible production and delivery deadline commitments with their
4 own customers, there often is no immediate substitute for resistors needed to make those
5 commitments. Indeed, no other type of passive electrical component (such as an inductor or
6 capacitor) would be able to serve an equivalent function and thus to satisfy production and delivery
7 demands Defendants' purchasers had no alternatives to linear resistors.

8 **D. Interchangeable, Commodity-like Products**

9 166. A commodity is a product that is standardized across suppliers allowing for a high
10 degree of substitutability among different suppliers in the market. When products offered by
11 different suppliers are viewed as interchangeable by purchasers, market participants typically
12 compete on the basis of price rather than other attributes such as product quality or customer service
13 rendering it is easier for participants both to agree on prices for the product and to monitor these
14 prices.

15 167. In the resistors market, standardization is a key element in the design of electronic
16 components such as resistors. Indeed, both the International Electrical Commission ("IEC") and
17 American National Standards Institute ("ANSI") promulgate standards denoting resistor sizes,
18 values, markings, and measurement methods. Resistors are mass-produced pursuant to these
19 standardized manufacturing processes rendering them mutually interchangeable.

20 168. Moreover, resistors of like resistance are interchangeable. Thus, even if certain
21 aspects of a given resistor differs, so long as the amount of resistance remains constant resistors are
22 substitutable.

23 169. Defendants are aware of the interchangeability of their products. Defendants have
24 even created cross-reference guides that list competitor's resistors by product number or technical
25 and operational specifications with a corresponding reference to those resistors offered by
26 Defendants that are interchangeable.

27 170. Indeed, Defendants' own internal documents referred to thick film chip resistors as
28 "commodity chips" and acknowledged the interchangeability of their resistor products. For example,

1 2011 KOA minutes discuss ramp up of “commodity flat chip production,” also referred to as
2 “standard products,” and distinguish these from high margin resistor products.

3 171. Because resistors of like resistance are interchangeable, commodity-like products, in a
4 competitive market, manufacturers would compete largely on the basis of price. Where, as here,
5 prices have remained stable or increased, market conditions are suggestive of collusive conduct.

6 **E. Declining Demand**

7 172. Static or declining demand renders collusion more likely. Under normal business
8 conditions, when faced with weak demand conditions firms will attempt to maintain sales by taking
9 market share from competitors via price competition. Stable or increasing prices in the face of static
10 or declining demand is yet another characteristic that is suggestive of anticompetitive conduct among
11 market participants.

12 173. As discussed more fully above, demand for resistors has steadily declined since the
13 early 2000s both as a result of declining demand for consumer electronics and also due to
14 technological trends favoring the smaller design of such electronics that, in turn, require fewer
15 resistors. Despite these demand conditions, prices for resistors have remained relatively stable since
16 2003.

17 **F. Excess Manufacturing Capacity**

18 174. The existence of excess manufacturing capacity tends to have a negative correlation
19 with price because manufacturers have the ability to steal share by lowering prices and increasing
20 production. As witnessed in 2001, this trend is even stronger in an environment of declining demand
21 because manufacturers have no choice but to compete for a smaller number of potential buyers.
22 Where prices remain stable or rise in an environment of excess manufacturing capacity and declining
23 demand, it becomes more likely that anticompetitive behavior is afoot.

24 175. As described in more detail above, both before and during the Class Period,
25 Defendants possessed excess manufacturing capacity and demand for resistors has steadily declined.
26 However, after 2003, these market conditions did not result in dramatic price reductions. To the
27 contrary, prices often remained stable or even rose. These pricing trends are suggestive of
28 anticompetitive conduct.

1 **G. Opportunities for Conspiring and Sharing Information**

2 176. Because of their common membership and participation in trade associations and
3 interrelated business relationships between certain executives, officers, and employees of the
4 Defendants, there were many opportunities both before and during the Class Period for Defendants
5 to collude by discussing competitive information regarding their resistors.

6 177. Industry trade associations make a market more susceptible to collusive behavior
7 because they can provide a pretext under which conspirators can exchange sensitive company
8 information such as pricing and market allocation.

9 178. A number of industry trade associations exist and count Defendants among their
10 members. For example, Defendants are all members of the Japan Electronics and Information
11 Technology Industries Association (“JEITA”), a prominent trade organization. Additionally,
12 Defendants were also members of the Passive Components Marketing Services group and the
13 Electronic Components Industry Association, trade associations that facilitated the conspiracy by
14 collecting and aggregating competitive information including sales in terms of dollars and units. The
15 aggregate data was then circulated to Defendants with a short time lag, allowing Defendants to
16 monitor each other’s pricing.

17 179. Defendants also attended various trade conferences that allowed them to meet without
18 drawing attention. For example, the employees of Defendants regularly attended the Electronics
19 Distribution Show and the Consumer Electronics Show. These trade shows provided numerous
20 opportunities for Defendants to meet privately to further the conspiracy.

21 180. Additionally, many of the Defendants also manufactured other passive electronic
22 components, including capacitors. These Defendants regularly met in secret to fix prices and
23 exchange confidential non-public information, and engage in cartel activity with respect to the
24 capacitors industry. For example, Panasonic conspired in violation of the antitrust laws with
25 capacitor manufacturers, including at times Defendant ROHM, starting no later than January 1, 2003.
26 These meetings provided yet another opportunity for Defendants to further their conspiracy as to
27 resistors.

1 **VIII. COMPETITION AUTHORITIES INVESTIGATE THE RESISTORS INDUSTRY**

2 181. Competition authorities in the United States have recently launched an investigation
3 into the major participants in the resistors industry. This is not the first time Defendants have been
4 the target of investigations involving alleged collusion.

5 182. Indeed, the United States Department of Justice has targeted Panasonic/SANYO
6 several times in the last ten years for participating in price-fixing conspiracies involving automotive
7 parts and lithium ion battery cells. As a result of these investigations, SANYO pleaded guilty for its
8 role in a conspiracy to fix prices on cylindrical lithium ion battery cells sold worldwide for use in
9 notebook computer battery packs, and agreed to pay a \$ 10.731 million criminal fine. Likewise,
10 Panasonic recently admitted its involvement in a six and a half year-long conspiracy to fix prices of
11 switches, steering angle sensors, and automotive high intensity discharge ballasts installed in cars
12 sold in the United States and elsewhere. Panasonic agreed to pay a \$45.8 million criminal fine, and a
13 number of its executives pled guilty in exchange for limited fines and imprisonment.

14 183. Additionally, the EC Competition Authority has targeted Panasonic for its
15 participation in a price-fixing conspiracy involving CRT televisions and monitors. Panasonic was
16 also named as a defendant in related U.S. civil litigation regarding a conspiracy to fix the prices of
17 CRT televisions and monitors. As a result of that suit, Panasonic agreed to pay \$17.3 million to
18 settle claims brought by direct purchasers. Finally, Panasonic is also a defendant in U.S. civil
19 litigation regarding price fixing among TFT-LCD flat panel display manufacturers and was named as
20 a Defendant in litigation alleging price fixing in the market for hermetic compressors.

21 184. In June 2008, Japan's Ministry of Economy, Trade and Industry issued a report on
22 Japanese companies' compliance with U.S. and European Union antitrust laws. The report
23 recommended to companies participating in industry trade associations that "when prices and other
24 important business conditions are put forward in an industry association's meeting, they have to
25 leave the meeting by saying that 'we cannot discuss such kinds of subjects.'" The purpose of this
26 report was to "call attention to overseas competition laws and to show key measures to be taken by
27 Japanese corporations."

1 185. In a follow-up report released in 2010, the Ministry noted that even after the
2 publication of its report, “incidents of competition law violations related to cartels continued to
3 occur.” The report warned that “it is difficult to conclude at the present time that there is a sufficient
4 competition law compliance regime in place for Japanese trade associations. Activities of trade
5 associations, where competitors are in contact with one another, are high-risk activities from the
6 perspective of competition law as they not only include formal discussion at trade associations’
7 meetings but also informal contacts before and/or after these meetings.” Despite these warnings
8 from their own competition authorities, JEITA members such as KOA, HDK, Panasonic, ROHM and
9 Kamaya continued sharing company-specific competitive information such as price and production
10 capacity during their frequent meetings.

11 186. It has also been reported that competition authorities in Korea and Japan – the Korean
12 Fair Trade Commission (“KFTC”) and Japanese Fair Trade Commission (“JFTC”) – recently
13 conducted on-site investigations and raids at some of the Defendants’ offices.

14 **IX. FRAUDULENT CONCEALMENT**

15 187. Plaintiff and members of the Class did not discover, and could not have discovered
16 through the exercise of reasonable diligence, the existence of the conspiracy alleged herein until July
17 2015, when foreign competition authorities began investigating the industry.

18 188. Defendants recognized the unlawful nature of their conspiracy and took steps to
19 conceal it. For example, recognizing the collusive nature of discussions within the JEITA Passive
20 Components Business Committee and its Resistors subcommittees, the Committee in 2008 changed
21 the entries on its meeting minutes to begin referring to “information exchange concerning general
22 market conditions” instead of “information exchange conducive to corporate management,” as it had
23 previously, in order to conceal participants’ ongoing collusive discussions including individual
24 companies’ resistor prices, sales, and production capacity. JEITA meetings were held in private
25 settings and their minutes were not made public.

26 189. Key participants in the conspiracy concealed their activities by warning each other to
27 treat collusive discussions as “confidential,” by referring to co-conspirators with code words, and by
28 reminding their co-conspirators to not distribute evidence of their competitive information exchanges

1 outside the conspiracy. For example, ROHM exchanged price information for the sale of resistors to
2 customer Nokia with Panasonic in September 2006. As reported by Yoshinori Hourai, the Panasonic
3 employee who received Nokia's price information, "[y]esterday, related to handling prices for Nokia,
4 I had GM Hashimoto contact the person responsible for General Global at R Co." "R Co.," as used in
5 Hourai's email, was code for competitor "ROHM." Hourai wrote to participants not to forward this
6 information because it was "confidential."

7 190. Similarly, Yoshihiro Hashimoto of Panasonic emailed Panasonic employees Kazuo
8 Sakami, Koichiro Nojiri, and Nobuo Nakayami, styling his email "Confidential Competitor
9 Information (KOA)." In the email, Hashimoto reported detailed information about KOA's monthly
10 production volume for carbon resistors, metal oxide resistors, and cement winding resistors, its
11 strategies to supply foreign vs. domestic products, and KOA's average sale price of 0.30 for carbon
12 resistors. Hashimoto used code words, adding that he also met with "R. Co," code for "ROHM."

13 191. When distributing his notes on a discussion with Defendant Kamaya and other JEITA
14 participants about available capacity, volume, and prices, Panasonic's Hiroaki Kamioka entitled his
15 message "Same Industry Information (Confidential)." He wrote, "[t]his is an information memo
16 from when I participated in a meeting with another company in the same industry last week. Please
17 handle with care."

18 192. Again, Panasonic's Yoshinori Hourai reported the details of a collusive discussion in
19 which Rohm, KOA, HDK, and Panasonic exchanged current resistor sales information during an
20 August 2011 meeting of the JEITA Passive Components Committee. Recognizing the collusive
21 nature of this discussion with competitors, Hourai instructed recipients of his report not to forward it
22 to others.

23 193. Because Defendants' alleged conspiracy was kept secret until at least July 2015,
24 Plaintiff and members of the Class before that time were unaware of Defendants' unlawful conduct
25 alleged herein, and they did not know before that time that they were paying supra-competitive
26 prices for resistors throughout the United States during the Class Period.

1 194. Moreover, Defendants' concerted pricing remained unnoticed for many reasons
2 including the facts that pricing for these resistors changes frequently and the sheer number and
3 variety of resistors rendered it difficult to track market-wide movement in pricing.

4 195. By its very nature, Defendants' conspiracy was inherently self-concealing. Resistors
5 are not exempt from antitrust regulation, and thus, before July 2015, Plaintiff reasonably considered
6 the resistors industry to be a competitive industry.

7 196. Under the circumstances surrounding Defendants' collusive practices, Defendants'
8 acts of concealment were more than sufficient to preclude suspicion by a reasonable person that
9 Defendants' pricing was conspiratorial. Accordingly, a reasonable person under the circumstances
10 would not have been alerted to investigate the legitimacy of Defendants' linear resistors prices before
11 July 2015.

12 197. Plaintiff and members of the Class could not have discovered the alleged conspiracy
13 at an earlier date by the exercise of reasonable diligence because of the deceptive practices and
14 techniques of secrecy employed by Defendants and their co-conspirators to avoid detection of and
15 fraudulently conceal their conspiracy.

16 198. Because the alleged conspiracy was both self-concealing and affirmatively concealed
17 by Defendants and their co-conspirators, Plaintiff and members of the Class had no knowledge of the
18 alleged conspiracy, or of any facts or information that would have caused a reasonably diligent
19 person to investigate whether a conspiracy existed, until July 2015, when investigations by foreign
20 competition authorities of the resistors industry were first made publicly known.

21 199. None of the facts or information available to Plaintiff and members of the Class prior
22 to July 2015, if investigated with reasonable diligence, could or would have led to the discovery of
23 the conspiracy alleged herein prior to that date.

24 200. As a result of Defendants' fraudulent concealment of their conspiracy, the running of
25 any statute of limitations has been tolled with respect to any claims that Plaintiff and members of the
26 Class have alleged in this Complaint.

1 201. Defendants and their co-conspirators engaged in a successful anti-competitive
2 conspiracy concerning resistors, which they affirmatively concealed, at least in the following
3 respects:

- 4 (a) By communicating secretly to discuss output and prices of resistors;
- 5 (b) By agreeing among themselves not to discuss publicly, or otherwise reveal,
6 the nature and substance of the acts and communications in furtherance of their illegal scheme;
- 7 (c) By attributing pricing to reasons other than their anticompetitive agreement;
- 8 and
- 9 (d) By falsely describing the market for resistors as competitive.

10 202. As a result of Defendants' fraudulent concealment, all applicable statutes of
11 limitations affecting Plaintiff's and the Class's claims have been tolled.

12 **X. EFFECTS OF THE CONSPIRACY**

13 203. Because of Defendants' illegal conspiracy, Plaintiff and the Class have been injured
14 in their business or property because they have paid more for linear resistors than they otherwise
15 would have in a competitive market.

16 204. Defendants' unlawful contract, combination, or conspiracy has had at least the
17 following effects:

- 18 (a) price competition in the resistors market has been artificially restrained;
- 19 (b) prices for resistors sold by Defendants have been raised, fixed, maintained, or
20 stabilized at supra-competitive levels; and
- 21 (c) purchasers of resistors from Defendants have been deprived of the benefit of
22 free and open competition in the resistors market.

23 **XI. CLASS ALLEGATIONS**

24 205. Plaintiff brings this action on behalf of itself and as a class action pursuant to Federal
25 Rules of Civil Procedure, Rule 23 (a), (b)(2) and (b)(3), on behalf of a similarly situated Class, which
26 is defined as follows:

27 All persons in the United States who purchased linear resistors
28 (including through controlled subsidiaries, agents, affiliates or joint-
 ventures) directly from any of the Defendants, their subsidiaries,

1 agents, affiliates or joint ventures from July 9, 2003 through August 1,
2 2014 (the “Class Period”).

3 206. The following persons or entities are excluded from the Class: Defendants and their
4 co-conspirators, Defendants’ parent companies and their subsidiaries, agents or affiliates,
5 Defendants’ officers, directors, management, employees, subsidiaries, agents or affiliates, and
6 federal governmental entities and instrumentalities of the federal government.

7 207. The Class encompasses persons and entities who purchased linear resistors directly
8 from any of the Defendants, even if those linear resistors were manufactured, sold, or distributed by
9 a given Defendant’s predecessors, parents, business units, subsidiaries, affiliated entities, principals,
10 agents, or co-conspirators.

11 208. Plaintiff believes that there are hundreds of Class members located throughout the
12 United States, the exact number and their identities being known by Defendants, making the Class so
13 numerous and geographically dispersed that joinder of all members is impracticable.

14 209. Questions of law or fact common to the Class include:

15 (a) Whether Defendants and their co-conspirators engaged in a combination and
16 conspiracy to restrict output and fix, raise, maintain, or stabilize the prices of linear resistors sold in
17 the United States;

18 (b) The identity of the conspiracy’s participants;

19 (c) The duration of the conspiracy alleged herein and the acts carried out by
20 Defendants and their co-conspirators in furtherance of the conspiracy;

21 (d) Whether the alleged conspiracy violated Section 1 of the Sherman Act;

22 (e) Whether Defendant fraudulently concealed their conspiracy from resistors
23 purchasers in the United States;

24 (f) Whether the conduct of Defendants and their co-conspirators, as alleged
25 herein, caused injury to the business and property of Plaintiff and the other Class members;

26 (g) The effect of the conspiracy on the prices of resistors sold in the United States
27 during the Class Period;

28 (h) The appropriate Class-wide measure of damages; and

1 (i) Whether Plaintiff and members of the Class are entitled to injunctive relief
2 and, if they are, the appropriate injunctive relief in this matter.

3 210. These and other questions of law and fact are common to the Class and predominate
4 over any questions affecting the Class members individually.

5 211. Plaintiff's claims are typical of the claims of Class members, and Plaintiff will fairly
6 and adequately protect the interests of the Class. Plaintiff and all members of the Class are similarly
7 affected by Defendants' wrongful conduct in violation of the antitrust laws, in that they paid
8 artificially inflated prices for products purchased directly from Defendants or their co-conspirators.
9 Plaintiff's claims arise out of the same common course of conduct giving rise to the claims of the
10 other Class members. Plaintiff's interests are coincident with, and not antagonistic to, those of the
11 other Class members.

12 212. Plaintiff is represented by competent counsel experienced in the prosecution of
13 antitrust and class action litigation.

14 213. The prosecution of separate actions by individual members of the Class would create
15 a risk of inconsistent or varying adjudications, establishing incompatible standards of conduct for
16 Defendants.

17 214. A class action is superior to other available methods for the fair and efficient
18 adjudication of this controversy. The Class is readily definable. Prosecution as a class action will
19 eliminate the possibility of repetitious litigation. Treatment as a class action will permit a large
20 number of similarly situated persons to adjudicate their common claims in a single forum
21 simultaneously, efficiently, and without the duplication of effort and expense that numerous
22 individual actions would engender. This action presents no difficulties in management that would
23 preclude maintenance as a class action.

24 **XII. CAUSE OF ACTION**

25 **SHERMAN ACT VIOLATION § 1 15 U.S.C. § 1**

26 **(Alleged Against All Defendants)**

27 215. Plaintiff incorporates and re-alleges each allegation set forth in the preceding
28 paragraphs of this Complaint.

1 D. That Plaintiff and the Class recover pre-judgment and post-judgment interest as
2 permitted by law.

3 E. That Plaintiff and the Class recover their costs of the suit, including attorneys' fees, as
4 provided by law.

5 F. That Defendants be enjoined from continuing their participation in the alleged
6 conspiracy.

7 G. For such other and further relief as is just and proper under the circumstances.

8 **JURY TRIAL DEMANDED**

9 Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiff demands a trial by jury of all the
10 claims asserted in this complaint so triable.

11 DATED: October 3, 2017

HAGENS BERMAN SOBOL SHAPIRO LLP

13 By s/ Jeff D. Friedman
14 JEFF D. FRIEDMAN

15 Jeff D. Friedman (173886)
16 Shana E. Scarlett (217895)
17 Benjamin J. Siegel (256260)
18 715 Hearst Avenue, Suite 202
19 Berkeley, CA 94710
20 Telephone: (510) 725-3000
21 Facsimile: (510) 725-3001
22 jefff@hbsslaw.com
23 shanas@hbsslaw.com
24 bens@hbsslaw.com

20 Steve W. Berman (*pro hac vice*)
21 HAGENS BERMAN SOBOL SHAPIRO LLP
22 1918 Eighth Avenue, Suite 3300
23 Seattle, WA 98101
24 Telephone: (206) 623-7292
25 Facsimile: (206) 623-0594
26 steve@hbsslaw.com

25 By s/ Kit A. Pierson
26 KIT A. PIERSON

26 Daniel A. Small (*pro hac vice*)
27 Emmy L. Levens (*pro hac vice*)
28 Robert A. Braun (*pro hac vice*)
Laura Alexander (255485)

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COHEN MILSTEIN SELLERS & TOLL PLLC
1100 New York Ave. NW, Suite 500, West Tower
Washington, DC 20005
Telephone: (202) 408-4600
kpierson@cohenmilstein.com
dsmall@cohenmilstein.com
elevens@cohenmilstein.com
rbraun@cohenmilstein.com
lalexander@cohenmilstein.com

Co-Lead Counsel for Direct Purchaser Plaintiffs