

BERMAN DeVALERIO

Joseph J. Tabacco, Jr. (SBN 75484)
 Todd A. Seaver (SBN 271067)
 One California Street, Suite 900
 San Francisco, CA 94111
 Tel: (415) 433-3200
 Fax: (415) 433-6382
 jtabacco@bermandevalerio.com
 tseaver@bermandevalerio.com

LABATON SUCHAROW LLP

Gregory S. Asciolla (*pro hac vice forthcoming*)
 Eric J. Belfi (*pro hac vice forthcoming*)
 Matthew J. Perez (*pro hac vice forthcoming*)
 140 Broadway
 New York, NY 10005
 Tel: (212)-907-0700
 Fax: (212)-818-0477
 gasciolla@labaton.com
 ebelfi@labaton.com
 mperez@labaton.com

Counsel for Plaintiff and the Proposed Class

[Additional Counsel on Signature Block]

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

QUATHIMATINE HOLDINGS, INC. D/B/A
 DIVICOM, USA, on behalf of itself and all those
 similarly situated,

Plaintiff,

v.

ELNA CO., LTD., ELNA AMERICA INC., AVX
 CORPORATION, KEMET CORPORATION,
 KEMET ELECTRONICS CORPORATION,
 NEC-TOKIN CORPORATION, NEC-TOKIN
 AMERICA, INC., HITACHI CHEMICAL CO.,
 LTD., HITACHI CHEMICAL CO. AMERICA,
 LTD., HITACHI AIC INC., NICHICON
 CORPORATION, NICHICON (AMERICA)
 CORPORATION, NIPPON CHEMI-CON
 CORPORATION, UNITED CHEMI-CON
 CORPORATION, MATSUO ELECTRIC CO.,
 LTD., PANASONIC CORPORATION,
 PANASONIC CORPORATION OF NORTH
 AMERICA, PANASONIC ELECTRONIC
 DEVICES CO. LTD., SANYO ELECTRIC CO.,

Civil Action No.

CLASS ACTION

CLASS ACTION COMPLAINT

JURY TRIAL DEMANDED

Caption continued on next page

LTD., SANYO NORTH AMERICA CORPORATION, SANYO ELECTRONIC DEVICE (U.S.A.), INC., ROHM CO. LTD., ROHM SEMICONDUCTOR U.S.A., LLC, RUBYCON CORPORATION, RUBYCON AMERICA INC., SAMSUNG ELECTRO-MECHANICS CO., LTD., SAMSUNG ELECTRO-MECHANICS AMERICA, INC., TAIYO YUDEN CO., LTD., TAIYO YUDEN (USA) INC., VISHAY INTERTECHNOLOGY, INC., and TOSHIN KOGYO CO., LTD.,

Defendants.

NATURE OF CLAIM

1. Plaintiff Quathimatine Holdings, Inc. d/b/a Divicom, USA, on behalf of itself and all others similarly situated, brings this class action against Defendants (defined below) for claims arising under the federal antitrust laws to recover damages, injunctive relief, and other relief for the substantial injuries it and others similarly situated have sustained as a result of Defendants' unlawful conduct to restrain competition in the market for aluminum and tantalum electrolytic capacitors ("Capacitors"). Plaintiff's allegations are made based on personal knowledge as to Plaintiff and Plaintiff's own acts, and upon information and belief as to all other matters.

2. Defendants, who manufacture, market, and sell Capacitors globally and in the United States, engaged in at least a five-year conspiracy to fix, raise, maintain, and/or stabilize prices of Capacitors in the United States. Numerous macroeconomic factors contributed to the formation and continuation of this conspiracy, including: (1) slumping demand for Capacitors as a result of the global recession in the second half of 2008; (2) increased costs for producing Capacitors; (3) technological innovations causing redundancy in end-use products; and (4) entry into the market of lower-priced dielectrics, such as multilayer ceramic chip capacitors, by Taiwanese, South Korean, and Chinese manufacturers.

3. Capacitors, together with resistors and inductors, typically make up what are known in the electronics industry as "passive component parts." Capacitors are passive two-terminal electrical components used to store energy electrostatically in an electric field. There

1 are several types of capacitors, including aluminum and tantalum (the capacitors at issue in this
 2 complaint), ceramic, film, and supercapacitors. While the types of Capacitors vary, all contain at
 3 least two electrical conductors (*i.e.*, plates) separated by a dielectric (*i.e.*, insulator).

4 4. Capacitors are found in nearly every electronic product on the market in a wide
 5 variety of industries, including consumer products (audio and visual), telecommunications,
 6 automotive, computer, and industrial equipment. Sometimes hundreds of Capacitors can be
 7 found in a single electronic device. For example, Apple iPhone 4s and iPads have 469 and 702
 8 capacitors, respectively. Given their necessity in nearly every electrical device, the global
 9 market for capacitors is large—estimated to be \$18.25 billion in 2014 and projected to continue
 10 growing.¹

11 5. Competition authorities in the United States, European Union, Japan, South
 12 Korea, and China have begun investigations into a potential global price-fixing cartel among
 13 Defendants involving several types of capacitors, including aluminum and tantalum electrolytic.
 14 The U.S. Department of Justice (“DOJ”) is reportedly coordinating its investigation with the
 15 Chinese National Development and Reform Commission (“NDRC”), the Japanese Fair Trade
 16 Commission (“JFTC”), and the Korean Fair Trade Commission (“KFTC”). The European
 17 Commission (“EC”) is also investigating anticompetitive conduct in the capacitors market. The
 18 global investigation was reportedly spurred by a Japanese whistleblower, who approached
 19 regulators in the United States and China with news of anticompetitive activities in the global
 20 capacitors industry.²

21 6. Several foreign investigations were precipitated by surprise raids on Defendants’
 22 premises in order to collect and preserve evidence of the conspiracy. In March 2014, Chinese
 23 officials raided Defendant’s NEC-Tokin and Taiyo Yuden’s facilities in China. Two months
 24 later, Korean officials visited Defendant Panasonic’s facilities in South Korea. In June 2014,

26 ¹ Dennis M. Zogbi, *Passive Electronic Components: World Market Outlook: 2014-2019*, at 27
 27 (Mar. 2014).

28 ² Dennis M. Zogbi, *The U.S. Department of Justice is Conducting an Ongoing Investigation into
 the Capacitor Industry*, tti | MarketEYE, June 6, 2014, <http://www.ttiinc.com/object/me-zogbi-2040606.html>.

1 Japanese officials inspected the facilities of Defendants ELNA, Matsuo Electric, Panasonic,
2 Rubycon, Nippon Chemi-Con, Hitachi, NEC-Tokin, and Nichicon.

3 7. In the United States, a Japanese corporation has reportedly applied to DOJ's
4 corporate leniency program, which allows cartel members to seek immunity from criminal
5 prosecution in exchange for providing substantial assistance in the prosecution of other cartel
6 members.³ A senior Chinese official stated that a Japanese corporation has made an application
7 for leniency under China's Antimonopoly Law. That same official stated that similar leniency
8 applications were made to South Korean and Singaporean authorities. Taiwanese antitrust
9 authorities are also reportedly investigating anticompetitive activities in the capacitors market.

10 8. Defendants and their co-conspirators participated in a conspiracy to suppress and
11 eliminate competition in the Capacitors market by agreeing to fix, raise, maintain and/or stabilize
12 the prices of Capacitors sold in the United States to Plaintiff and the Class. The conspiracy
13 engaged in by Defendants and their co-conspirators was an unreasonable restraint of interstate
14 and foreign trade and commerce in violation of the Sherman Antitrust Act, 15 U.S.C. § 1.

15 9. Plaintiff seeks to represent all persons and entities in the United States who
16 directly purchased Capacitors from any Defendant for commercial or personal use during the
17 period from and including January 1, 2009 through such time as the anticompetitive effects of
18 Defendants' conduct ceased (the "Class Period").

19 10. As a direct result of the anticompetitive and unlawful conduct alleged herein,
20 Plaintiff and the Class paid artificially inflated prices for Capacitors during the Class Period, and
21 have thereby suffered antitrust injury to their business or property.

22 **JURISDICTION AND VENUE**

23 11. This action arises under Section 1 of the Sherman Act, 15 U.S.C. § 1, and
24 Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§15 and 26.

25
26
27 ³ Philip Giordano, *Here Comes Tougher International Antitrust Enforcement*, Forbes, June 9,
28 2014, <http://www.forbes.com/sites/forbesleadershipforum/2014/06/09/here-comes-tougher-international-price-fixing-enforcement/>.

1 Plaintiff purchased Capacitors directly from one or more Defendants and was injured as a result
2 of Defendants' anticompetitive conduct.

3 18. Defendant ELNA Co., Ltd. is a Japanese corporation with its principal place of
4 business located at 3-8-11 Shin-Yokohama, Kohoku-ku, Yokohama, Japan. ELNA Co., Ltd.
5 produced and sold aluminum electrolytic capacitors during the Class Period.

6 19. Defendant ELNA America Inc. is a California corporation and a wholly-owned
7 subsidiary of ELNA Co., Ltd. with its principal place of business at 879 West 190th Street, Suite
8 100, Gardena, California. ELNA America Inc. sold and distributed aluminum electrolytic
9 capacitors during the Class Period.

10 20. Together, Defendants ELNA Co., Ltd. and ELNA America Inc. are referred to as
11 "ELNA."

12 21. Defendant AVX Corporation ("AVX") is a Delaware corporation with its
13 principal place of business located at 1 AVX Boulevard, Fountain Inn, South Carolina. AVX is
14 a subsidiary of Kyocera Corporation. AVX's passive electronic component products include
15 tantalum electrolytic capacitors, film and ceramic capacitors, varistors, filters, and other
16 components manufactured in its facilities worldwide as well as passive components
17 manufactured by Kyocera. On or around February 2013, AVX acquired Nichicon Corporation's
18 tantalum capacitors operations. AVX sold tantalum electrolytic capacitors during the Class
19 Period.

20 22. Defendant KEMET Corporation is a Delaware corporation with its principal place
21 of business located at 2835 Kemet Way, Simpsonville, South Carolina. KEMET Corporation
22 manufactured and distributed aluminum electrolytic and tantalum electrolytic capacitors during
23 the Class Period.

24 23. Defendant KEMET Electronics Corporation is a wholly-owned subsidiary of
25 KEMET Corporation with its principal place of business located at 2835 Kemet Way
26 Simpsonville, South Carolina. KEMET Electronics Corporation manufactured and sold
27 aluminum and tantalum electrolytic capacitors during the Class Period. In March 2012, KEMET
28 Electronics Corporation announced that it was forming a business alliance with NEC-Tokin

1 Corporation and had acquired 51 percent of the voting interest in Defendant NEC-Tokin, with
2 the remainder held by NEC Corporation.

3 24. Together, Defendants KEMET Corporation and KEMET Electronics Corporation
4 are referred to as “KEMET.”

5 25. Defendant NEC-Tokin Corporation is a Japanese corporation with its principal
6 place of business located at 7-1, Kohriyama 6-chome, Taihaku-ku, Sendai-shi, Japan. NEC-
7 Tokin Corporation manufactured and sold tantalum electrolytic capacitors during the Class
8 Period.

9 26. Defendant NEC-Tokin America, Inc. is a California corporation and a wholly-
10 owned subsidiary of NEC-Tokin Corporation with its principal place of business located at 2460
11 North First Street, Suite 220, San Jose, California. NEC-Tokin America, Inc. manufactured and
12 sold tantalum electrolytic capacitors during the Class Period.

13 27. Together, Defendants NEC-Tokin Corporation and NEC-Tokin America, Inc. are
14 referred to as “NEC-Tokin.”

15 28. Defendant Hitachi Chemical Co. Ltd. is a Japanese corporation with its principal
16 place of business located at Grantokyo South Tower, 1-9-2, Marunouchi, Chiyoda-ku, Tokyo,
17 Japan. Hitachi Chemical Co. Ltd. manufactured and sold aluminum and tantalum electrolytic
18 capacitors during the Class Period. Hitachi Chemical Co. Ltd. is a subsidiary of Hitachi, Ltd.

19 29. Defendant Hitachi Chemical Co. of America, Ltd. is a New York corporation and
20 a wholly-owned subsidiary of Hitachi Chemical Co. Ltd. with its principal place of business
21 located at 10080 North Wolfe Road, Suite SW3-200, Cupertino, California. Hitachi Chemical
22 Company of America, Ltd. sold and distributed aluminum electrolytic capacitors during the
23 Class Period.

24 30. Defendant Hitachi AIC Inc. is a Japanese corporation and a wholly-owned
25 subsidiary of Hitachi Chemical Co. Ltd with its principal place of business in 1065, Kugeta,
26 Moka-shi, Tochigi, Japan. Hitachi AIC Inc. manufactured and sold aluminum electrolytic
27 capacitors during the Class Period. It also sold tantalum electrolytic capacitors prior to selling
28 off that portion of their business to Holy Stone Enterprise Company Ltd. in 2010.

1 31. Defendants Hitachi Chemical Co. Ltd., Hitachi Chemical Company of America,
2 Ltd. and Hitachi AIC Inc. are collectively referred to as “Hitachi.”

3 32. Defendant Nichicon Corporation is a Japanese corporation with its principal place
4 of business located at Karasumadori Orike-agaru, Nakagyo-ku, Kyoto, Japan. Nichicon
5 Corporation manufactured and sold aluminum and tantalum electrolytic capacitors during the
6 Class Period.

7 33. Defendant Nichicon (America) Corporation is an Illinois corporation and a
8 wholly-owned subsidiary of Nichicon Corporation with its principal place of business located at
9 927 East State Parkway, Schaumburg, Illinois. Nichicon (America) Corporation distributed and
10 sold aluminum and tantalum electrolytic capacitors during the Class Period.

11 34. Together, Defendants Nichicon Corporation and Nichicon (America) Corporation
12 are referred to as “Nichicon.”

13 35. Defendant Nippon Chemi-Con Corporation is a Japanese corporation with its
14 principal place of business located at 5-6-4, Osaki, Shinagawa, Tokyo, Japan. It manufactures
15 and sells aluminum electrolytic capacitors, ceramic capacitors, and film capacitors, precision
16 mechanical components, and electronics equipment in Japan and elsewhere.

17 36. Defendant United Chemi-Con Corporation is an Illinois corporation and a wholly-
18 owned subsidiary of Nippon Chemi-Con Corporation with its principal place of business located
19 at 9801 West Higgins Road, Rosemont, Illinois. United Chemi-Con Corporation manufactured
20 and sold aluminum electrolytic capacitors during the Class Period.

21 37. Together, Defendants Nippon Chemi-Con Corporation and United Chemi-Con
22 Corporation are referred to as “Nippon Chemi-Con.”

23 38. Defendant Matsuo Electric Co., Ltd. (“Matsuo”) is a Japanese corporation with its
24 principal place of business located at 3-5-3 Sennari-cho, Toyonaka-shi, Osaka, Japan. Matsuo
25 manufactured and marketed aluminum and tantalum electrolytic capacitors during the Class
26 Period.

27 39. Defendant Panasonic Corporation is a Japanese corporation with its principal
28 place of business located at 1006 Oaza Kadoma, Kadoma City, Osaka, Japan. Panasonic

1 Corporation engages in the development, production, and sale of electronic and electric products,
2 systems, and components for a range of consumer, business, and industrial uses. Panasonic
3 Corporation manufactured, sold, and distributed aluminum and tantalum electrolytic capacitors
4 during the Class Period.

5 40. Defendant Panasonic Corporation of North America is a Delaware corporation
6 and a wholly-owned subsidiary of Panasonic Corporation with its principal place of business
7 located at Two Riverfront Plaza, Newark, New Jersey. Panasonic Corporation of North America
8 sold and distributed aluminum and tantalum electrolytic capacitors during the Class Period.

9 41. Defendant Panasonic Electronic Devices Co. Ltd. is a Japanese corporation with
10 its principal place of business located at 1006 Oaza Kadoma, Kadoma City, Osaka, Japan.
11 Panasonic Electronic Devices Co. Ltd. manufactures electronic components, including
12 capacitors. In April 2012, Panasonic Electronic Devices Co. Ltd. was merged into Panasonic
13 Corporation. Panasonic Electronic Devices Co. Ltd. manufactured, distributed, and sold
14 aluminum and tantalum electrolytic capacitors during the Class Period.

15 42. Defendant SANYO Electric Co., Ltd. is a Japanese corporation with its principal
16 place of business located at 5-5 Keihan-Hondori, 2-Chome, Moriguchi City, Osaka, Japan.
17 SANYO Electric Co. Ltd. designs and produces televisions, solar power generating systems,
18 batteries, multimedia projectors, and electronic components, including aluminum and tantalum
19 electrolytic capacitors. As of December 2009, SANYO Electric Co., Ltd. operates as a
20 subsidiary of Panasonic Corporation.

21 43. Defendant SANYO North America Corporation is an American subsidiary of
22 SANYO Electric Co. Ltd. with its principal place of business located at 2055 Sanyo Avenue, San
23 Diego, California. SANYO North America Corporation manufactured, distributed, and sold
24 aluminum and tantalum electrolytic capacitors during the Class Period.

25 44. Defendant SANYO Electronic Device (U.S.A.), Inc. is a Delaware corporation
26 and a wholly-owned subsidiary of SANYO North America Corporation with its principal place
27 of business located at 2055 Sanyo Avenue, San Diego, California. SANYO Electronic Device
28

1 (U.S.A.), Inc. distributed and sold aluminum and tantalum electrolytic capacitors during the
2 Class Period.

3 45. Defendants Panasonic Corporation, Panasonic Corporation of North America,
4 Panasonic Electronic Devices Co. Ltd., SANYO Electric Co. Ltd., SANYO North America
5 Corp., and SANYO Electronic Device (U.S.A.) Corporation are collectively referred to as
6 “Panasonic/SANYO.”

7 46. Defendant ROHM Co., Ltd. is a Japanese corporation with its principal place of
8 business located at 21 Saiin Mizosaki-cho, Ukyo-ku, Kyoto, Japan. ROHM Co. Ltd. produced
9 and sold tantalum electrolytic capacitors during the Class Period.

10 47. Defendant ROHM Semiconductor U.S.A., LLC is a Delaware limited liability
11 company and a wholly-owned subsidiary of ROHM Co., Ltd, with its principal place of business
12 located at 6815 Flanders Dr., San Diego, California. ROHM Semiconductor U.S.A., LLC
13 distributed and sold tantalum electrolytic capacitors during the Class Period.

14 48. Together Defendants ROHM Co. Ltd. and ROHM Semiconductor U.S.A., LLC
15 are referred to as “ROHM.”

16 49. Defendant Rubycon Corporation is a Japanese corporation with its principal place
17 of business located at 1938-1, Nishi-Minowa, Ina-City, Nagano, Japan. Rubycon Corporation
18 manufactured and sold aluminum electrolytic capacitors during the Class Period.

19 50. Defendant Rubycon America Inc. is an Illinois corporation and a wholly-owned
20 subsidiary of Rubycon Corporation with its principal place of business located at 4293 Lee
21 Avenue, Gurnee, Illinois. Rubycon America Inc. distributed and sold aluminum electrolytic
22 capacitors during the Class Period.

23 51. Together, Defendants Rubycon Corporation and Rubycon America Inc. are
24 referred to as “Rubycon.”

25 52. Defendant Samsung Electro-Mechanics Co., Ltd. is a Korean corporation with its
26 principal place of business located at Gyeonggi-Do Suwon-Si Youngtong-Gu Maeyoung-Ro
27 150, South Korea. Samsung Electro-Mechanics Co., Ltd. produced and sold tantalum
28 electrolytic capacitors during the Class Period.

53. Defendant Samsung Electro-Mechanics America, Inc. is a California corporation and a wholly-owned subsidiary of Samsung Electro-Mechanics Co., Ltd. with its principal place of business located at 3333 Michelson Drive, Suite 500, Irvine, California. Samsung Electro-Mechanics America, Inc. distributed and sold tantalum electrolytic capacitors during the Class Period.

54. Together, Defendants Samsung Electro-Mechanics Co., Ltd. and Samsung Electro-Mechanics America, Inc. are referred to as “SEMCO.”

55. Defendant Taiyo Yuden Co., Ltd. is a Japanese corporation with its principal place of business located at 6-16-20, Ueno, Taito-ku, Tokyo, Japan. Taiyo Yuden produces and sells capacitors.

56. Defendant Taiyo Yuden (USA) Inc. is an Illinois corporation and a wholly-owned subsidiary of Taiyo Yuden Co. Ltd. with its principal place of business located at 10 North Martingale Road, Suite 575, Schaumburg, Illinois.

57. Together, Defendants Taiyo Yuden Co., Ltd. and Taiyo Yuden (USA) Inc. are referred to as “Taiyo Yuden.”

58. Defendant Vishay Intertechnology, Inc. (“Vishay”) is a Delaware corporation with its principal place of business located at 63 Lancaster Avenue, Malvern, Pennsylvania. Vishay manufactures and supplies discrete semiconductors and passive components in the United States, Europe, and Asia. Vishay produced and sold aluminum and tantalum electrolytic capacitors during the Class Period.

59. Defendant Toshin Kogyo Co., Ltd. (“Toshin Kogyo”) is a Japanese corporation with its principal place of business at Tsukasa Building 2-15-4, Uchikanda Chiyoda-ku, Tokyo, Japan. Toshin Kogyo manufactured and sold aluminum and tantalum electrolytic capacitors during the Class Period.

AGENTS AND CO-CONSPIRATORS

60. Each Defendant acted as the principal of or agent for the other Defendants with respect to the acts, violations, and common course of conduct alleged herein.

61. Various persons, partnerships, sole proprietors, firms, corporations and individuals not named as Defendants in this lawsuit, and individuals, the identities of which are presently unknown, have participated as co-conspirators with Defendants in the offenses alleged in this Complaint, and have performed acts and made statements in furtherance of the conspiracy or in furtherance of the anticompetitive conduct.

62. Whenever in this Complaint reference is made to any act, deed or transaction of any corporation or limited liability entity, the allegation means that the corporation or limited liability entity engaged in the act, deed or transaction by or through its officers, directors, agents, employees or representatives while they were actively engaged in the management, direction, control, or transaction of the corporation's or limited liability entity's business or affairs.

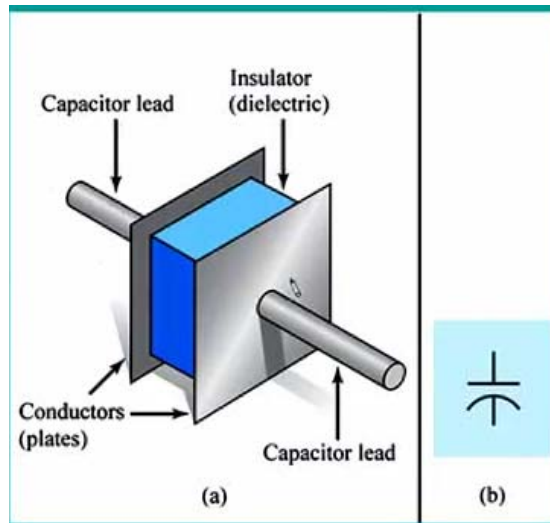
FACTUAL ALLEGATIONS

A. Characteristics and Uses of Capacitors

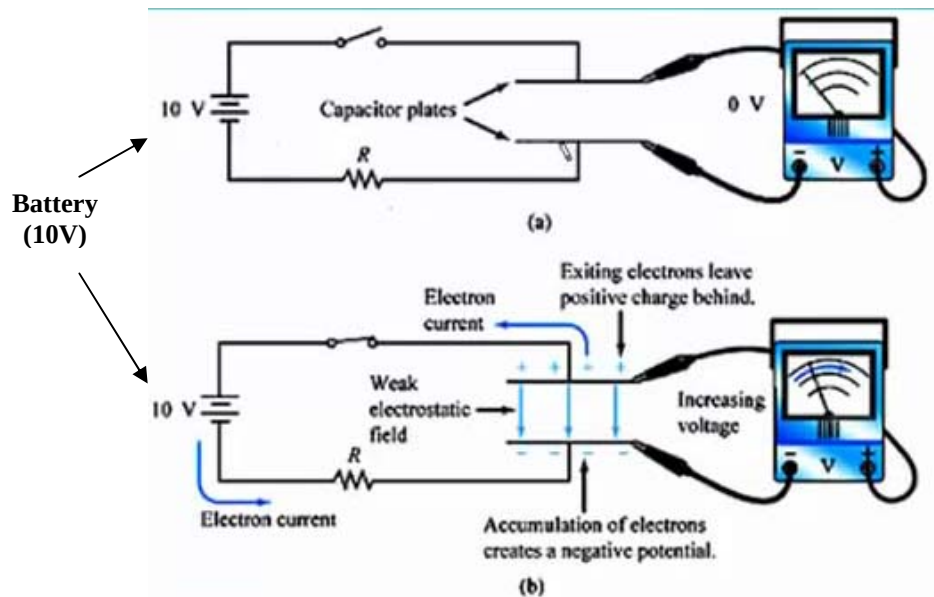
63. Capacitors are passive two-terminal electrical components used to store energy electrostatically in an electric field between their plates. They are used in nearly every type of electrical device manufactured today, including in a wide variety of industries such as consumer products (audio, visual), telecommunications, automotive, computer, and industrial equipment.

64. Capacitors resist changes in voltage by drawing current from or supplying current to the source of the voltage change, in opposition to the change (*e.g.*, when voltage decreases current moves away from the capacitor). Within electrical circuits, capacitors work as compliments to other electronic components, including resistors and inductors. Because capacitors, resistors, and inductors typically do not require any source of energy to perform their function in an application, they are usually referred to in the electronics industry as "passive component parts."

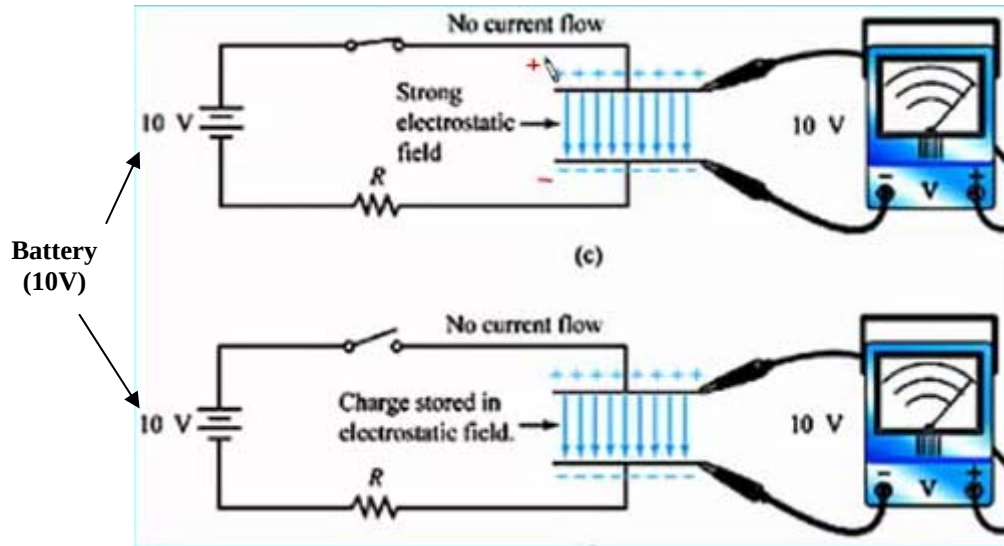
65. While the forms of capacitors vary, all contain at least two electrical conductors (*i.e.*, plates) separated by a dielectric (*i.e.*, insulator), as shown in the following diagram:



66. Capacitors generally work as follows: voltage applied to the plates of the capacitors will charge the plates according to the polarity of the applied voltage. As the charges on the plate accumulate, current flow is reduced through the charging circuit. The following schematic shows how a capacitor operates in an electrical circuit:



67. In an electrical circuit, no current flows when the switch is open. When the switch is closed, current flows from the negative side of the battery to the bottom plate of the capacitor where it creates an electrostatic field. This flow of current continues until the capacitor—and more specifically, the dielectric—is fully charged.



68. When the capacitor is fully charged, the current stops flowing. When the switch is open on a fully-charged capacitor, the capacitor will hold the charge indefinitely (however, because no capacitor is perfect, over time energy will leak from the capacitor).

69. The measure of a capacitor's ability to store charge is called capacitance. Capacitance is affected by three primary factors: plate area, plate separation, and dielectric material. With respect to plate area, the larger the size of the plate, the larger the size of the charge, if all other factors remain constant. With respect to plate separation, increasing the separation will decrease the size of the charge, if all other factors remain constant.

70. In addition to capacitance, capacitors are rated according to the following non-exclusive set of factors:

- (a) Voltage—the maximum voltage that can be applied to the capacitor without damaging the dielectric;
- (b) Tolerance—the measure of the extent to which the actual capacitance is allowed to vary from its nominal value;
- (c) Temperature Coefficient—how the value of the capacitor will change under the influence of heat;
- (d) Dissipation Factor—the measure of how inefficient the insulating material of a capacitor is, namely through the measurement of heat loss when the dielectric is exposed to an alternating field of electricity;

(e) Equivalent Series Resistance—the measure of resistive losses which occur in all capacitor types from various factors including resistance in components and contacts, viscous forces within the dielectric, and defects producing bypassing current paths;

(f) Electrical Impedance—the measure of the opposition that a circuit presents to a current when a voltage is applied;

(g) Ripple current—the ratio of the root mean square value of the ripple voltage to the absolute value of the DC (direct current) component of the output voltage, usually expressed as a percentage;

(h) Leakage Current—the measure of the current flowing or “leaking” through the dielectric due to the influence of the powerful electric fields built up by the charge on the plates when applied to a constant supply voltage; and

(i) Insulation resistance—the measure of the insulating property of dielectric materials.

B. Types of Capacitors

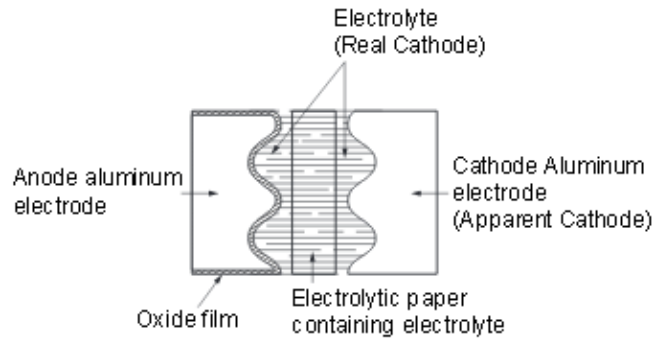
71. There are several types of capacitors in the market today, including, aluminum, tantalum, film, ceramic, and supercapacitors. Defendants’ conspiracy involves two of those types—aluminum and tantalum electrolytic capacitors.

1. Aluminum Electrolytic Capacitors

72. Aluminum electrolytic capacitors consist of aluminum foil, electrolytic paper, electrolyte, and an aluminum oxide layer, which acts as the dielectric. The cathode and anode portions of the aluminum electrolytic capacitor are made of aluminum foil, with the aluminum oxide layer formed on the anode foil surface. The foil and paper are wound together and are soaked in a liquid electrolyte forming what is known as a “capacitor element.” The soaking process only occurs with non-solid electrolytic construction; aluminum electrolytic capacitors can also be constructed using a solid electrolyte.

73. The figure below shows a schematic of an aluminum electrolytic capacitor:⁴

⁴ Nichicon, *General Description of Aluminum Electrolytic Capacitors*, <http://www.nmr.mgh.harvard.edu/~reese/electrolytics/tec1.pdf>.



74. Manufacturing aluminum electrolytic capacitors involves at least seven steps: (1) etching the aluminum foil to enlarge its surface area (and consequently, its capacitance); (2) forming the dielectric; (3) slitting the anode and cathode foil into specified widths; (4) winding the foil with the electrolytic paper; (5) soaking or “impregnating” of paper in electrolyte liquid; (6) assembly; and (7) aging.

75. Aluminum electrolytic capacitors are primarily used in televisions and other consumer audio and visual electronics, laptops, and automobiles—particularly within airbags, stereos, and navigational systems.

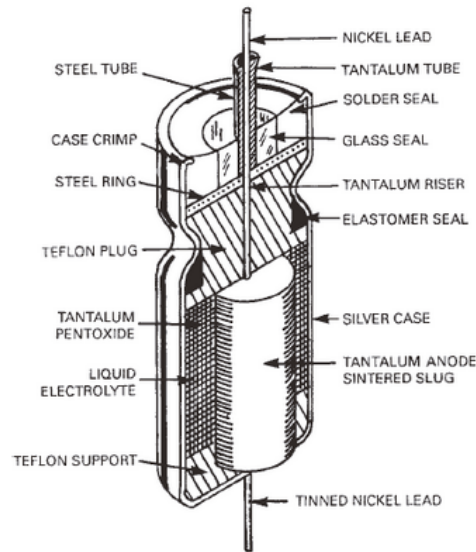
2. Tantalum Electrolytic Capacitors

76. The dielectric in tantalum electrolytic capacitors is tantalum pentoxide. Production of tantalum electrolytic capacitors begins with taking tantalum powder—which is produced from tantalum metal—and mechanically pressing it into pellets. A lead is embedded into the tantalum powder as it is being pressed. From there, the tantalum pellets are sintered to remove impurities, bind tantalum particles together, and increase surface area.

77. A film of tantalum pentoxide is electrochemically formed on the surface of the fused tantalum particles. The pellet is then inserted into a tantalum or silver can containing an electrolyte solution.

78. The figure below shows a cutaway of a tantalum electrolytic capacitor:⁵

⁵ Vishay, *Wet Electrolyte Tantalum Capacitors*, <http://www.vishay.com/docs/40021/wtintro.pdf>; IHS GlobalSpec Electronics, *Tantalum Capacitors Information*, http://www.globalspec.com/learnmore/passive_discrete_devices/capacitors/tantalum_capacitors.



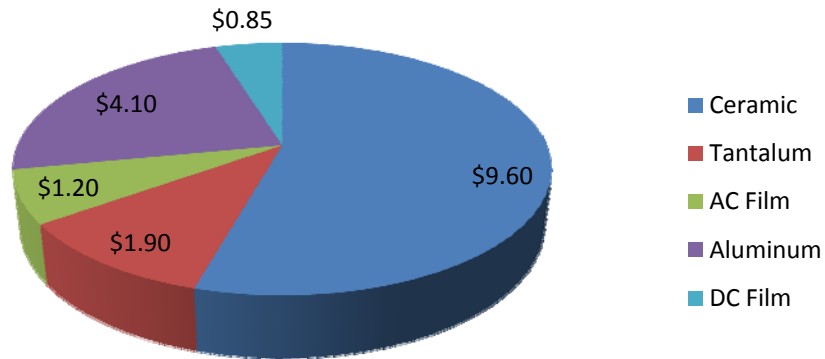
79. Tantalum electrolytic capacitors tend to be the smallest-sized capacitors. They are preferred for applications where volumetric efficiency (*i.e.*, the ratio of capacitance to physical size), stable electric parameters, high reliability, and long service life are primary objectives. These qualities are particularly valuable in computers, handsets, tablets, hearing aids, digital cameras, and smartphones, where capacitance demands are high and physical space is at a premium. They are also used in the defense, medicine, automotive, and oil and gas industries.

C. The Capacitors Market

80. Capacitors are found in nearly every electronic product on the market. Sometimes hundreds of them can be found in a single electronic device. Given their necessity in electronic products, the global market for all types of capacitors is estimated to be \$18.25 billion in 2014.

81. Within this \$18.25 billion global market, the following chart shows the size of the market for each type of capacitor:

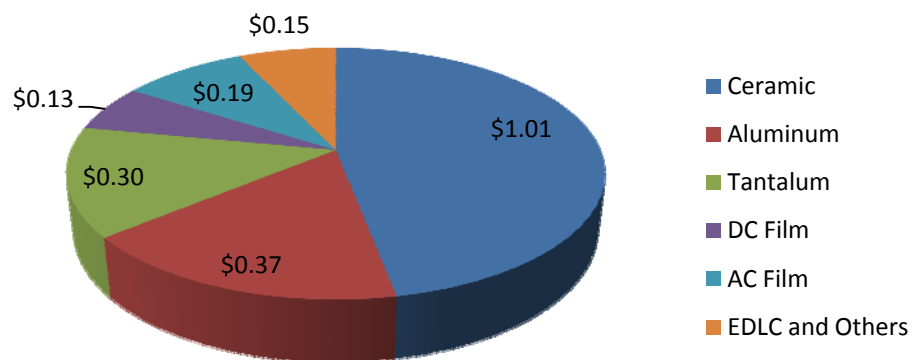
Global Capacitors Market: FY 2014 (Billions of Dollars)



82. Globally, aluminum and tantalum electrolytic capacitors comprise \$6.0 billion annually, or 33% of the overall capacitors market.

83. Of the total global market, over \$2.1 billion is generated from all capacitor sales to the Americas—which includes the United States. The following chart shows the breakdown by capacitor type in the Americas:⁶

Americas Capacitor Market: FY 2014 (\$2.153 Billion)



⁶ Zogbi, *supra* note 1, at 143.

84. Aggregate sales in the Americas for aluminum and tantalum electrolytic capacitors totaled approximately \$670 million in fiscal year 2014, which is over 31% of the entire capacitors market in the Americas.

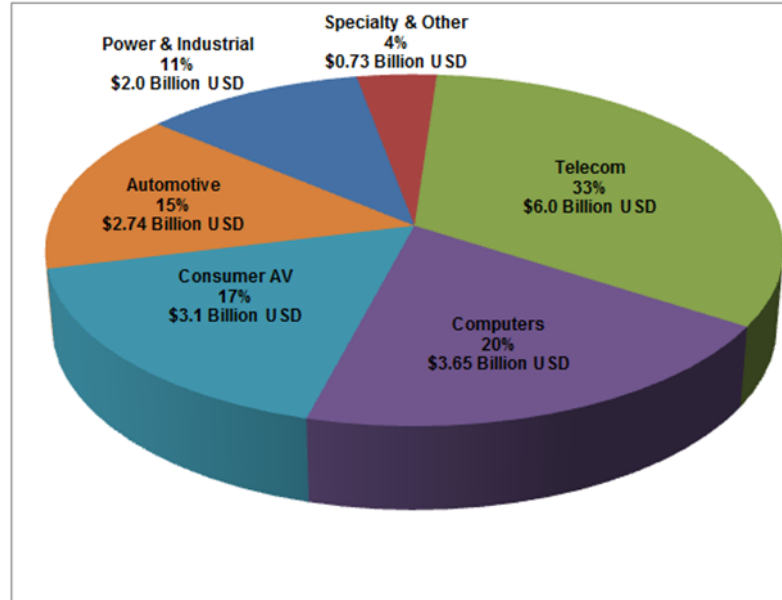
85. Capacitors are used in at least six primary market segments: consumer audio/visual imaging; telecommunications (consumer and infrastructure); computer and business machines; automotive electronics; power and industrial infrastructure; and specialty industries.

The following table lists the types of specific end-uses that comprise each market segment:⁷

Consumer Audio and Video Imaging	Telecommunications (Customer and Infrastructure)	Computer and Business Machine	Automotive Electronics	Power, Industrial Infrastructure	Specialty & Other
Television sets	Wireless Handsets All Types	Motherboards	Engine Control Units	Power Supplies	Defense Electronics
Audio Systems and Accessories	Land Line Phones	Semiconductor on Chip	ABS Cards	Power Transmission	Medical Electronics
Game Consoles	GPS Devices	Graphics Cards	SRS Electronics	Power Distribution	Oil well/Down-hole Pump
High Definition TV Tuners	Switches	Modem Cards	Car Stereo & Components	DC/DC Brick Converters	Mining and Forestry
Flat Panel TV Displays	Routers	Sound Cards	HVAC System	DC Motors and Relays	Class 7 and 8 Trucks
Electronic Toys and Games	Repeaters	Hard Disc Drive	Driver Information	Fans and Blowers	Emerging Markets
DVD Player	RF Transmitters	Fax Machine	Powertrain Electronics	Motor Controllers	
CD Player	PBX Equipment	Scanner	Hybrid Electric Integration	Variable Speed Drive	
Cassette Player	Wireless Base Station	Printer	Door locks	Power welders	
Digital Video Camera	ADSL and Cable Modems	Copier Machine	Seat Motors	Lab Instrumentation	
Digital Video Recorder	Satellite Communications	Calculator	Interior Lighting	Measurement instruments	
Cable Set Top Box			Alternator	Semiconductor MFG Eq	
Lighting Ballasts Residential				Switchgear and Switchboard	
				Windmills	
				Solar Converters	
				Home Appliances	

86. The proportion each end-use segment consumes of the overall capacitors market is as follows:

⁷ *Id.* at 67.

Global Consumption Value of Capacitors By End-Use Market Segment: FY 2014**D. Defendants' Conspiracy to Fix Prices of Capacitors**

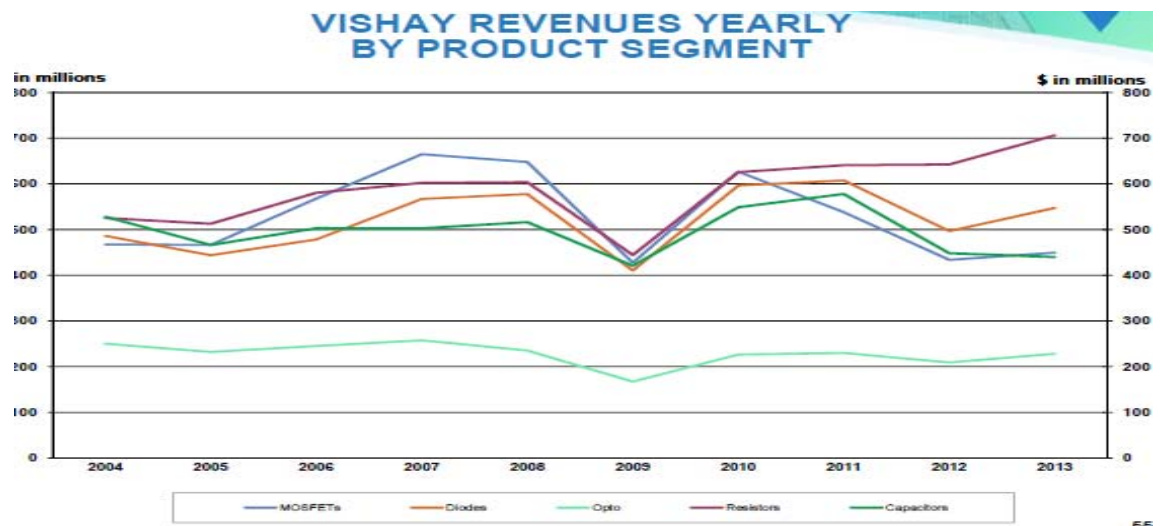
87. Starting at least as early as January 1, 2009, Defendants entered into an agreement to fix, raise, maintain, and/or stabilize the price of Capacitors in the United States. A number of macroeconomic factors support the birth of the conspiracy in 2009, as well as its continuation through the present. These factors include: the negative effects on business due to the global economic recession; increased raw material costs; technological innovations; and increased competition from other cheaper forms of capacitors produced by aggressive Taiwanese, South Korean, and Chinese manufacturers.

88. The global financial crisis had deleterious effects on the market for Capacitors. Capacitors suffered noticeable declines in demand following the crisis in the second half of 2008, including in the United States. When the world's financial markets crashed after the collapse of Lehman Brothers, demand for many of the consumer products that contain Capacitors also crashed. In addition, demand for these end-use products has been relatively slow to recover. Declining demand in end-use segments had the effect of lowering demand for capacitors used in the fabrication of products found within these end-use segments. This weakening demand had a negative impact on each Defendant's business.

89. Government stimulus efforts—*e.g.*, American Recovery and Reinvestment Act of 2009, 123 Stat. 115 (Feb. 17, 2009) and the Federal Reserve’s Quantitative Easing programs in the United States, as well as similar stimulus efforts in European and Asian countries—eased some of the effects of the global recession. However, manufacturers of Capacitors found that demand for their Capacitors continued to lag despite these stimulus efforts.

90. Indeed, industry analysts observing diminishing lead times in the production of Capacitors in the latter part of 2011 determined the cause to be waning demand in personal computers and television sets, both of which failed to recover despite stimulus efforts. Sales of television sets, home entertainment systems, and computers, a mainstay of the aluminum electrolytic capacitor end-use market, remained sluggish through fiscal year 2013.

91. Defendants themselves acknowledged waning demand for their Capacitors. For example, Defendant Vishay, a major producer of tantalum capacitors, demonstrated the impact the global financial crisis had on sales of Capacitors in a May 2014 Corporate Presentation Growth Plan.⁸



92. The above chart shows Vishay suffered a substantial drop in revenues from its capacitor sales between 2008 and the beginning of 2009. After a slight uptick in sales between 2009 and 2010, sales crashed again between 2011 and 2013, falling to 2008 recession levels.

⁸ Vishay Intertechnologies, Inc., Corporate Presentation Growth Plan (May 2014), at 55.

1 93. Other Defendants experienced similar declines in sales for their capacitors as a
 2 result of the 2008 financial crisis. ROHM in its 2009 Annual Report noted that “in the second
 3 half [of 2008] sales stagnated caused by overall deterioration of the market.”⁹ It further noted
 4 that “the market for main equipment such as mobile phones, personal computers, and flat-screen
 5 TVs was subject to a sudden degradation of the supply-demand relationship resulting from
 6 greatly worsened business confidence after the autumn to severe price-reduction, and the markets
 7 plunged into unprecedented recession.”¹⁰

8 94. Defendant SANYO in its 2009 Annual Report stated that in their electronic
 9 components business lines—which includes their aluminum electrolytic capacitors—“there was
 10 a fall in demand due to the flagging market for electric appliances, such as mobile phones, PCs,
 11 and TVs, due to the economic downturn during the second half. For SANYO, sales drastically
 12 dropped due to falling prices, in addition to a fall in demand for components for use in notebook
 13 computers and mobile phones.”¹¹

14 95. Nippon Chemi-Con’s public statements also reflect the pressures on its capacitors
 15 business after the economic meltdown in the second half of 2008. In its 2009 Annual Report,
 16 Nippon Chemi-Con stated that sales of its capacitors dropped by 19.5% from the previous year,
 17 the result of “flagging demand for electronic components, [and] inventory adjustments amid the
 18 drastic cooling of the global economy from the second half of fiscal 2008.”¹² Sales continued to
 19 slide in 2010. Although sales rebounded in 2011—in part, the result of economic stimulus
 20 packages in Japan—Nippon Chemi-Con in its Annual Reports from 2012 through 2013 noted
 21 that it experienced a combined 27.6% decrease in capacitor sales due to decrease in demand of
 22 PC, flat-panel TV, and other digital appliances as a result of worsening global market
 23 conditions.¹³

24
 25
 26 ⁹ ROHM 2009 Annual Rep. at 17.

27 ¹⁰ *Id.* at 18.

28 ¹¹ SANYO 2009 Annual Rep. at 13.

¹² Nippon Chemi-Con 2009 Annual Rep. at 4.

¹³ Nippon Chemi-Con 2012 Annual Rep. at 4; Nippon Chemi-Con 2013 Annual Rep. at 5.

1 96. A second economic factor that hit the Capacitors market hard during the Class
 2 Period was significant increases in the costs associated with obtaining the raw materials
 3 necessary for the production of Capacitors. Increased prices for the raw material inputs for
 4 Capacitors placed manufacturers of aluminum and tantalum capacitors at a competitive
 5 disadvantage compared to manufacturers of other types of capacitors that require less expensive
 6 inputs.

7 97. In 2011, prices of tantalite ore rose sharply, the result of major Australian mines
 8 shuttering their operations and the enactment of the Dodd-Frank Wall Street Reform Act of 2010
 9 (“Dodd-Frank”), which designated tantalum as a conflict mineral. The “conflict mineral”
 10 designation effectively placed 25% of the world’s tantalum supply off limits to companies doing
 11 business in the United States.¹⁴

12 98. Tantalum electrolytic capacitor manufacturers are particularly sensitive to shocks
 13 in the prices of processed tantalum. For example, Defendant Vishay demonstrated their
 14 vulnerabilities to price shocks by obtaining their processed tantalum via short-term contracts
 15 because there were few suppliers of processed tantalum.¹⁵ Indeed, Vishay, as recently as 2013,
 16 stated:

17 [a]lthough most materials incorporated in our products are
 18 available from a number of sources, certain materials are available
 19 only from a relatively limited number of suppliers or are subject to
 20 significant price volatility. Our results of operations may be
 21 materially and adversely affected if we have difficulty obtaining
 22 these raw materials, the quality of available raw materials
 23 deteriorates, or there are significant price changes for these raw
 24 materials.¹⁶

25 99. Aluminum electrolytic capacitor manufacturers also experienced raw material
 26 price increases, as well as supply constraints, during the Class Period. In March 2011, the
 27 Tōhoku earthquake and tsunami in Japan had a noticeable impact on the Capacitors market
 28

¹⁴ Tom Vulcan, *Rare Metal Tantalum Faces Supply Conflict Produced by Dodd-Frank*, Hard Assets Investor, Apr. 22, 2013, <http://www.hardassetsinvestor.com/features/4727-rare-metal-tantalum-faces-supply-conflict-produced-by-dodd-frank.html?showall=&fullart=1&start=6>.

¹⁵ Vishay 2009 10-K, at 43; Vishay 2010 10-K, at 12; Vishay 2011 10-K, at 15.

¹⁶ Vishay 2013 10-K, at 67.

1 because the major manufacturers and raw materials suppliers for aluminum electrolytic
2 capacitors were located in the area most affected by the earthquake.

3 100. A third factor that adversely impacted the Capacitors market during the Class
4 Period was technological innovations in the industry. Technological innovation was rendering
5 certain end-use products that contained Capacitors to be redundant. One industry report found
6 that the rise of the smartphone was “making some key consumer electronics products that would
7 consume aluminum capacitors redundant (*i.e.*, the camera and GPS markets).”¹⁷ That same
8 report also noted that “the movement to tablets [was] also impacting aluminum capacitors, which
9 are primarily used in desktop and notebook systems.”¹⁸

10 101. A fourth factor impacting the Capacitors market during the Class Period was
11 increased competition from cheaper capacitors entering the market. For example, even though
12 tantalum electrolytic capacitors had long been viewed a mainstay of portable electronics—
13 including computers and handsets, such as mp3 players, and smartphones—newer multi-layer
14 ceramic chip (“MLCC”) capacitors began to steadily encroach upon tantalum’s traditional
15 stronghold because of MLCC capacitors’ low prices and strong performance in various
16 applications.

17 102. Specifically, MLCC capacitors have achieved technological breakthroughs that
18 “involve an increase in the capacitance value per cubic centimeter of ceramic capacitor, which in
19 turn allows ceramic capacitors to effectively compete against electrolytic (*i.e.*, tantalum and
20 aluminum) capacitor technologies respectively.”¹⁹ Further, Defendants were facing increasing
21 pressure from these capacitors because Taiwanese, South Korean, and Chinese capacitor
22 manufacturers were aggressively lowering prices on the most popular product types.²⁰
23
24

25 ¹⁷ Zogbi, *supra* note 1, at 130.

26 ¹⁸ *Id.* at 130.

27 ¹⁹ Dennis M. Zogbi, *High Capacitance MLCC: Competition at the Granular Level*, TTInc. (July
17, 2013), <http://www.ttiinc.com/object/me-zogbi-20130717.html>.

28 ²⁰ YANO Research, *Capacitor Market in Japan: Key Research Findings 2009*, Nov. 12, 2009,
<http://www.yanoresearch.com/press/pdf/554.pdf>.

1 103. Faced with these difficult market pressures and seeing their revenues slide as a
2 result, Defendants conspired to fix, raise, maintain, and/or stabilize the price of Capacitors sold
3 in the United States rather than continuing to compete against one another on the merits.

4 104. The conspiracy was facilitated by several means. As the primary competitors in
5 their respective markets, Defendants were well aware of each other's businesses, including
6 market shares, pricing, costs, and other capabilities with respect to the production and sale of
7 Capacitors.

8 105. For example, each Defendant producing aluminum electrolytic capacitors
9 encounters the same costs—including, among other things, the development of fabrication lines,
10 raw material and labor costs, and shipping and distribution costs—and as a result, each
11 Defendant is reasonably capable of estimating their competitors' costs of production and overall
12 margins on the sale of aluminum electrolytic capacitors. The same holds true for Defendants
13 producing tantalum electrolytic capacitors.

14 106. Because the competitive and macroeconomic pressures felt by each Defendant
15 producing Capacitors were the same, each had incentives to collude to protect their profits and
16 sales.

17 107. Defendants accomplished their price-fixing conspiracy through, among other
18 things, meetings and the exchange of confidential information regarding pricing, costs,
19 manufacturing and supply issues.

20 108. The purpose of these secret, conspiratorial meetings, discussions, and
21 communications was to ensure that all Defendants agreed to participate in and implement an
22 unlawful, continuing price-fixing scheme.

23 109. As a result of their unlawful agreements, Defendants implemented price increases
24 or reduced or eliminated price decreases for Capacitors during the Class Period.

25 110. In formulating and effectuating their conspiracy, Defendants and their co-
26 conspirators engaged in numerous anticompetitive activities, including among other things:

1 (a) Attending joint meetings or otherwise engaging in joint discussions in the
2 United States and elsewhere by telephone, facsimile, and electronic mail regarding the sale of
3 Capacitors;

4 (b) Agreeing to charge prices for Capacitors at specified levels, and otherwise
5 fix, increase, maintain, and/or stabilize the prices and supply of Capacitors sold to purchasers in
6 the United States;

7 (c) Agreeing to coordinate lead times for the production of Capacitors at
8 specified levels with the intent to stabilize the global supply of Capacitors, which in turn helped
9 reinforce Defendants' unlawful pricing agreements;

10 (d) Selling Capacitors to customers in the United States and elsewhere at
11 collusive and non-competitive prices pursuant to the agreements reached;

12 (e) Accepting payments for Capacitors sold in the United States and
13 elsewhere at collusive and non-competitive prices;

14 (f) Communicating with one another to discuss the prices, customers,
15 markets, supply and manufacturing issues, and price levels of Capacitors sold in the United
16 States;

17 (g) Authorizing or consenting to the participation of employees in the
18 conspiracy; and

19 (h) Concealing the conspiracy and conspiratorial contacts through various
20 means.

21 111. As a result of Defendants' unlawful agreements to restrain trade, Plaintiff and
22 members of the Class were injured because they had to pay supracompetitive prices for
23 Capacitors sold in the United States.

24 **E. Competition Authorities Have Launched and Coordinated a Global Government**
25 **Investigation into the Capacitors Industry**

26 112. Competition authorities from the United States, China, Japan, South Korea,
27 Europe, Taiwan, and Singapore have initiated a global, coordinated antitrust investigation
28 concerning the unlawful conspiracy alleged herein.

1 113. On April 2, 2014, DOJ spokesperson Gina Talamona stated that “the Antitrust
2 Division is investigating the possibility of anticompetitive conduct in the capacitor industry.”²¹
3 The DOJ’s investigation was launched after Defendant Panasonic approached regulators in the
4 United States and China seeking leniency under the respective countries’ antitrust laws.²² To
5 date, however, Panasonic has declined to publicly comment on whether it is the corporate
6 leniency applicant.

7 114. Several companies have been subpoenaed by the DOJ, including Defendants
8 Taiyo Yuden, NEC-Tokin, and Panasonic. The subpoenas reportedly seek information
9 concerning plastic film and electrolytic capacitors, a category that includes tantalum, aluminum,
10 and supercapacitors.²³

11 115. The investigation is being spearheaded by the DOJ’s San Francisco field office,
12 and a grand jury has been empanelled in the United States District Court for the Northern District
13 of California.²⁴

14 116. Xu Kunlin, Director-General of the NDRC’s Price Supervision and Antimonopoly
15 Bureau, confirmed that a Japanese company was seeking leniency under China’s Antimonopoly
16 Law. He further confirmed that the leniency applicant would receive full leniency and that there
17 were parallel leniency applications filed in South Korea, Singapore, and the United States.²⁵ Mr.
18 Kunlin also told the *Policy and Regulatory Report* that NDRC has nearly finished its cartel
19 investigation into the electronic capacitor industry.

20 117. The DOJ is reportedly coordinating its investigation with the NDRC, JFTC, and
21 KFTC.²⁶ EC and Taiwanese officials are also reportedly investigating anticompetitive conduct
22 in the capacitors industry.²⁷

23
24 ²¹ Leah Nylen, *Capacitor manufacturers under antitrust scrutiny in US, China*, MLex (Apr. 2, 2014).

25 ²² Leah Nylen, *Global capacitor probe said to cover multiple products*, MLex (May 27, 2014).

26 ²³ Nylen, *supra* note 22.

27 ²⁴ Nylen, *supra* note 21.

28 ²⁵ Lisha Zhou, *China’s NDRC hopes to cooperate with other jurisdictions in cartel probe*, PaRR Special Report: ABA Antitrust in Asia, <http://www.parr-global.com/wp-content/uploads/2014/06/ABA-antitrust-in-asia-special-report.pdf>.

²⁶ Zogbi, *supra* note 2.

1 118. Chinese officials from NDRC conducted dawn raids of NEC-Tokin's and Taiyo
 2 Yuden's facilities in China in March 2014. A spokesman for Taiyo Yuden confirmed that the
 3 company's Chinese operations were inspected by Chinese officials.²⁸ It was also reported that
 4 lawyers for NEC met with officials from NDRC in mid-April 2014.

5 119. Two months later, Korean officials visited a Panasonic subsidiary's facilities in
 6 South Korea. This was confirmed by Panasonic spokesman, Akira Kadota.²⁹

7 120. On May 31, 2014, Toshin Kogyo stated that it was contacted by competition
 8 authorities in Japan, China, and Taiwan.³⁰

9 121. NEC-Tokin has also disclosed that it received inquiries from EC officials.³¹ The
 10 EC has also reportedly asked for information from Taiyo Yuden and Panasonic in connection
 11 with their investigation.

12 122. On June 24, 2014, Nippon Chemi-Con released a statement stating that its offices
 13 were raided by JFTC on suspicion that it violated Japan's antitrust laws in connection with its
 14 activities in the capacitors market. The investigation relates to Nippon Chemi-Con's activities in
 15 the supercapacitors, aluminum electrolytic and tantalum electrolytic capacitors segments.
 16 Nippon Chemi-Con also stated that it was under investigations from U.S. and Chinese authorities
 17 for similar conduct.³²

18 123. Also on June 24, 2014, ELNA, Matsuo Electric, Panasonic, and Rubycon all
 19 confirmed that their offices were raided by JFTC. ELNA also confirmed that it was under
 20 investigation in China and the United States. Yukio Komatsu of Rubycon confirmed that in
 21
 22

23 ²⁷ *Capacitor maker Toshin confirms contact from Japan, China, Taiwan*, MLex (May 30, 2014)

24 ²⁸ *Comment: Global scrutiny of capacitors markets grows with Korean raids*, MLex (May 8,
 25 2014).

²⁹ *Id.*

26 ³⁰ *Capacitor maker Toshin confirms contact from Japan, China, Taiwan*, MLex (May 30, 2014).

27 ³¹ *Comment: Global scrutiny of capacitors markets grows with Korean raids*, MLex (May 8,
 28 2014).

³² *Nippon Chemi-Con confirms Japanese antitrust inspection, US, Chinese probes over capacitors*, MLex (June 24, 2014).

1 addition to the searches by JFTC, Rubycon had also received letters from regulators in Europe,
2 the United States, South Korea, and China.³³

3 124. That same day, *The Japan News* reported that JFTC conducted raids of nine
4 electronic component parts manufacturers, including the facilities of Panasonic (and its
5 subsidiary SANYO), Nippon Chemi-Con, Hitachi, NEC-Tokin, and Nichicon. The JFTC is
6 investigating whether these companies agreed on the timing and size of certain prices for
7 Capacitors.³⁴ Specifically, regulators believe that these companies “secured profits by uniformly
8 passing the increases in material procurement costs through to product prices, citing shrinking
9 demand after the collapse of Lehman Brothers in 2008, soaring costs of aluminum and tantalum
10 and other factors,” such as the Tōhoku earthquake and subsequent tsunami in March 2011.³⁵

11 **F. Market Structure and Characteristics Support the Existence of a Conspiracy**

12 125. The structure and other characteristics of the Capacitors market make it conducive
13 to collusion and price-fixing. Specifically, during the Class Period, the market for Capacitors
14 exhibited: (1) high barriers to entry; (2) inelasticity of demand; (3) a high degree of
15 homogeneity; (4) declining demand after the global financial crisis in 2008; (5) rising costs for
16 raw materials; (6) a high degree of concentration; and (7) ample opportunities to meet and
17 conspire.

18 **1. Market for Capacitors Has High Barriers to Entry**

19 126. A collusive arrangement that raises product prices above competitive levels
20 would, under basic economic principles, attract new entrants seeking to benefit from the supra-
21 competitive pricing. When, however, there are significant barriers to entry, new entrants are
22 much less likely to enter the market. Thus, barriers to entry help facilitate the formation and
23 maintenance of a cartel.

24
25
26 ³³ Leah Nylen & Lewis Crofts, *Comment: Japanese raids put more pressure on global capacitors cartel*, MLex (June 24, 2014).

27 ³⁴ *Electronic parts makers inspected in cartel probe*, The Japan News, June 25, 2014, <http://the-japan-news.com/news/article/0001377486>.

28 ³⁵ *Id.*

1 127. There are substantial barriers that preclude, reduce, or make more difficult entry
2 into the Capacitors market. Developing and manufacturing Capacitors requires highly
3 specialized and sophisticated equipment, resources, and industry knowledge. Manufacturing
4 these capacitors is therefore a cost-intensive process.

5 128. A new entrant into the Capacitors market would face high start-up costs,
6 including hundreds of millions of dollars associated with the cost of building facilities and
7 assembly lines for the manufacturing of Capacitors.

8 129. Additionally, the nature of the Capacitors industry requires the establishment of
9 supply lines for the raw materials needed to manufacture Capacitors, including rare metals like
10 tantalum. Industry estimates state that raw materials constitute anywhere from 40% to 60% of
11 the variable cost of component parts like Capacitors, so ensuring a steady and relatively cheap
12 supply line of raw materials is essential for controlling the costs of production.

13 130. The Capacitors market also involves economies of scale and scope, which present
14 additional barriers to entry. Economies of scale exist where firms can lower the average cost per
15 unit through increased production because fixed costs are shared over a larger number of units.
16 Economies of scope exist where firms achieve a cost advantage from providing a wide variety of
17 products or services.

18 131. Defendants are the world's largest manufacturers of Capacitors. The large
19 number of capacitor units produced and sold by Defendants gives them a distinct competitive
20 advantage in terms of economies of scale.

21 132. As a result, any new entrant in the Capacitors market would have difficulty
22 matching the production costs of incumbent market participants such as the Defendants. This
23 would affect their ability to act as a price-disciplining force against Defendants.

24 133. Moreover, with their diverse array of products, Defendants also have distinct
25 advantages in terms of economies of scope over any prospective entrant in the Capacitors
26 market. Many Defendants produce and sell complimentary passive component parts, such as
27 resistors and inductors, allowing them to achieve economies of scope that new entrants in the
28 Capacitors market would have difficulty replicating.

2. Inelasticity of Demand for Capacitors

134. “Elasticity” is a term used to describe the sensitivity of supply and demand to changes in one or the other. For example, demand is said to be “inelastic” if an increase in the price of a product results in only a small decline in the quantity sold of that product, if any. In other words, customers have nowhere to turn for alternative, cheaper products of similar quality, and so continue to purchase despite a price increase.

135. For a cartel to profit from raising prices above competitive levels, demand must be relatively inelastic at competitive prices. Otherwise, increased prices would result in declining sales, revenues, and profits as customers purchased substitute products or declined to buy altogether. Inelastic demand is a market characteristic that facilitates collusion, allowing producers to raise their prices without triggering customer substitution and lost sales revenue.

136. Nearly every electrical circuit requires capacitors and, as a result, they are found in nearly every electronic product.

137. Capacitors have no substitutes. Capacitors are unique in their function and cannot be reasonably substituted by alternative products. Their profile in storing energy in an electrostatic field cannot be replicated by other electric component parts such as resistors or inductors.

138. Resistors have discreet functions within an electrical circuit, different from those of a capacitor, and thus are not interchangeable. Resistors dissipate energy in the form of heat, whereas capacitors do not.

139. Inductors also have different functions than capacitors. Although both electrical components are designed to store energy, as an inductor stores more energy, its current level increases, while its voltage drop decreases. To the contrary, a capacitor’s energy storage increases voltage across the component. Thus, inductors cannot serve as substitutes for capacitors in electric circuitry.

140. Thus, a small but significant non-transitory increase in the price of Capacitors will not lead to consumers purchasing other products. Because of the inelasticity of demand for capacitors, Defendants can maintain their conspiracy to raise, maintain, and/or stabilize the price

of capacitors because consumers must purchase these products either as stand-alone items or as components of electric devices that incorporate them.

3. Capacitors are Homogeneous, Fungible Products

141. When products are subject to commoditization, producers of those products are usually forced to compete on price, as opposed to other factors, such as quality and ancillary services. When price becomes a significant factor in driving demand for a product, producers of a commoditized product have an easier time colluding on price than other non-price factors because price-based collusion is much easier to monitor and implement.

142. Capacitors are a commodity product. Even though there are different types of capacitors—based on, among other things, their design (*i.e.*, plate size and plate separation) and dielectric material—capacitors containing similar dielectrics are generally homogeneous products that are interchangeable with each other. Industry standards have illustrated the ways in which different capacitor types can be substituted. The *Component Characteristics Substitution Guide: Capacitors* lists a series of substitution rules governing the interchangeability of capacitors. These substitution rules include:³⁶

(a) the ability to substitute lower capacitance capacitors with higher capacitance capacitors;

(b) the ability to substitute a capacitor with a with a looser tolerance with a capacitor tighter (better) tolerance;

(c) the ability to substitute a capacitor with a lower voltage rating with a capacitor with higher voltage rating;

(d) the ability to substitute a larger sized capacitor with a smaller sized capacitor if lead spacing is the same and the differences in electrical specifications are acceptable;

(e) the ability to substitute a capacitor with a lower temperature rating with a capacitor with a higher temperature rating;

³⁶ NIC Component Corp., *Component Characteristics Substitution Guide: Capacitors*, http://www.niccomp.com/NIC_Cap_Sub_Guide_0504.pdf.

1 (f) the ability to substitute a capacitor with a less stable temperature
2 coefficient with a capacitor with a more stable temperature coefficient;

3 (g) the ability to substitute a capacitor with a higher dissipation factor with a
4 capacitor with a lower dissipation factor;

5 (h) the ability to substitute a capacitor with higher equivalent series resistance
6 (“ESR”) or impedance with a capacitor with a lower ESR or impedance;

7 (i) the ability to substitute a capacitor with a lower ripple current rating with a
8 capacitor with a higher ripple current rating;

9 (j) the ability to substitute a higher leakage current rated capacitor with a
10 lower leakage current rated capacitor; and

11 (k) the ability to substitute a lower insulation resistance rated capacitor with a
12 higher insulation resistance capacitor.

13 143. Furthermore, different types of capacitors can be used in many of the same end-
14 products. For example, aluminum and tantalum electrolytic capacitors are both heavily used in
15 computers and other consumer electronic devices.

16 144. Thus, the fungibility of capacitors supports the notion that capacitors as a whole
17 are a distinct, commodity-like product market.

18 **4. Decline in Global Demand for Capacitors**

19 145. Economic literature has examined the effects of declining demand on the behavior
20 of market participants. Empirical evidence has shown that collusion is more frequent and
21 significantly larger in scope when demand shrinks rather than when it grows. Analyses of
22 experimental duopoly markets conducted by Klaus Abbink and Jordi Brandts demonstrated that
23 “[c]ollusion is much more frequent in shrinking markets, leading to average prices that are more
24 than twice as high as in growing markets.”³⁷ Additionally, in shrinking markets “co-ordination
25 on the maximum price is almost three times as frequent as in growing markets.”³⁸

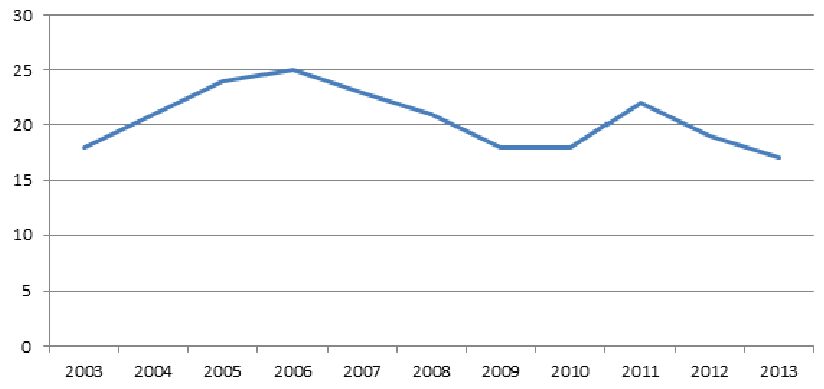
26 _____
27 ³⁷ Klaus Abbink and Jordi Brandts, *Collusion in Growing and Shrinking Markets: Empirical
Evidence from Experimental Duopolies* (Feb. 2005) at 17,
<http://www.nottingham.ac.uk/cedex/documents/papers/2005-03.pdf>.

28 ³⁸ *Id.* at 17.

1 146. According to Messrs. Abbink and Brandts, shrinking demand is able to generate
2 stronger collusive behavior because of “a strong disciplining effect that is exerted by the prospect
3 of shrinking profits. If co-operation is not achieved early, then profit opportunities melt away at
4 a fast pace.”³⁹

5 147. The market for Capacitors suffered pronounced declines in the volumes sold
6 beginning as early as 2006.⁴⁰ For example, tantalum electrolytic capacitors suffered a 28%
7 decline in sales between 2006 and 2010, going from 25 billion units to 18 billion units.

8 **Volume of Tantalum Capacitors Sold 2003-2013**
9 **(Billions of Units Sold)**

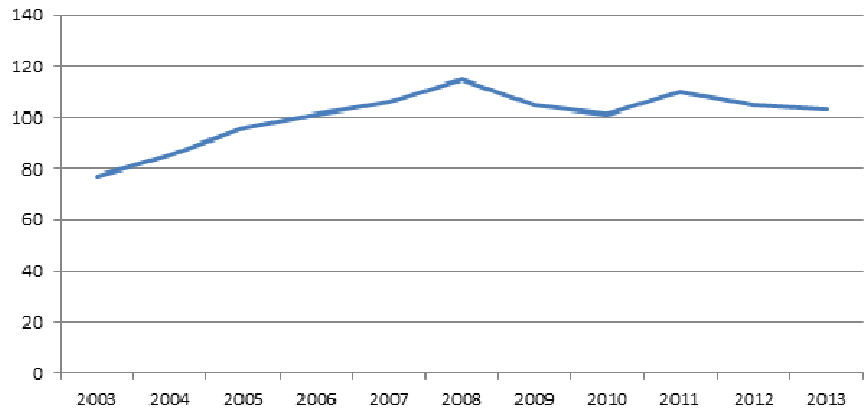


16 148. With respect to aluminum electrolytic capacitors, the decline in demand occurred
17 later—specifically after the global economic crisis in 2008. From 2008 through 2010, aluminum
18 electrolytic capacitors experienced a 12% decline in sales, from 115 billion units to 101 billion
19 units.
20
21
22
23
24
25
26

27 ³⁹ *Id.*

28 ⁴⁰ Data for the analysis at ¶¶ 147-158 taken from Zogbi, *supra* note 1, at 129-138, Figures 60-65.

**Volume of Aluminum Capacitors Sold 2003-2013
(Billions of Units Sold)**

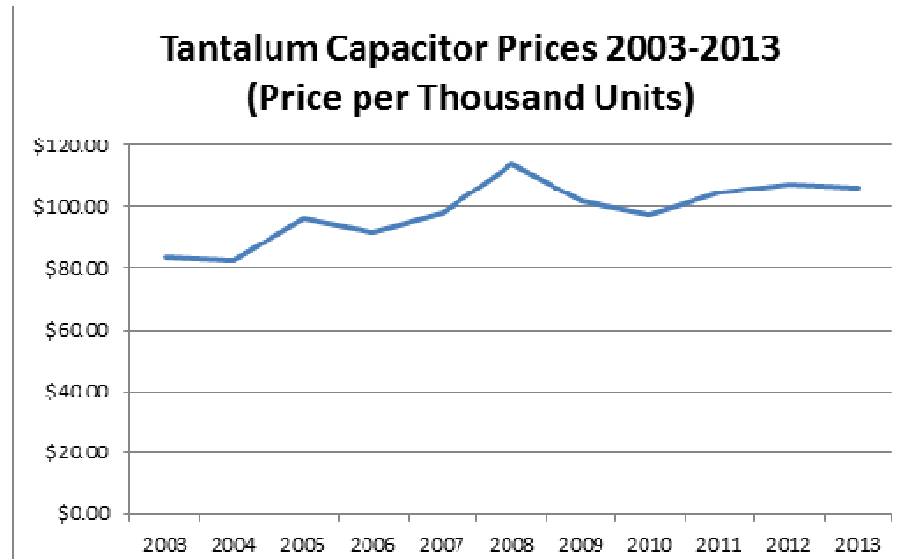


149. The depressed markets for aluminum and tantalum electrolytic capacitors stands in stark contrast to the accelerating growth of ceramic capacitors—particularly MLCC capacitors. Over the same period of time, ceramic capacitors—due to their bettering performance and increasing volumetric efficiency (making it more suitable for space-conscious application)—experienced a 91.6% increase in sales, from 632 billion units to 1,211 billion units.

150. Because market demand for aluminum electrolytic and tantalum electrolytic capacitors was shrinking, prices generally should have been falling in the face of excess supply in the form of manufacturer and customer inventory. However, this trend was not observed with tantalum electrolytic capacitors as prices from 2005 through the present have generally risen.

The chart and graph below illustrates this point:

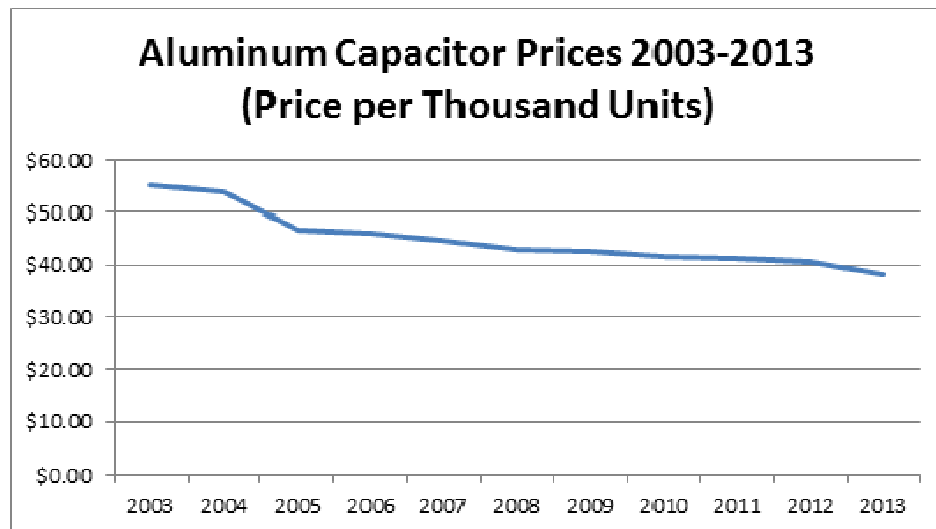
Tantalum Capacitor Prices 2003-2013 (per thousand units)										
2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
\$83.33	\$82.43	\$96.46	\$91.80	\$97.83	\$113.81	\$101.78	\$97.67	\$104.86	\$107.37	\$106.18



151. The general trend of increasing prices of tantalum is at odds with the general decline in global demand over the same period, and thus is suggestive of collusive behavior by Defendants in maintaining and raising the price of tantalum electrolytic capacitors.

152. With respect to aluminum electrolytic capacitors, prices were relatively flat from 2009 to 2013, slipping only a small amount from about \$42.48 per thousand pieces in 2009 to \$38.12 per thousand pieces in 2013.

Aluminum Capacitor Prices 2003-2013 (per thousand units)										
2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
\$55.06	\$53.71	\$46.76	\$45.85	\$44.53	\$43.04	\$42.48	\$41.70	\$41.27	\$40.65	\$38.12



153. This suggests that Defendants conspired to slow the overall slide in prices for aluminum electrolytic capacitors and to maintain them at artificial levels.

5. Prices for Raw Materials For Capacitors Increased Significantly

154. Increases in the cost of essential raw materials can also help spur collusive behavior. Because raw materials account for between 40% and 60% of the variable cost of passive components (including Capacitors), producers of Capacitors are highly sensitive to price movements—particularly large ones—in the raw materials necessary for production.

155. Producers of tantalum electrolytic capacitors were subjected to severe price shocks for the essential raw material needed to produce these types of capacitors—tantalum. As the chart below shows, the price of tantalite ore (from which tantalum is extracted) soared between July 2011 and early 2013, from under \$100 per kilogram to over \$250 per kilogram—an increase of over 150%.



1 156. Prices for tantalite rose during this time from a combination of factors, including
2 shuttered mines in Canada, Australia, and Ethiopia, as well as mines in Mozambique operating at
3 around 10% of capacity.⁴¹

4 157. Further, regulations in the United States, particularly Dodd-Frank, placed
5 tantalum sourced from conflict zones in the Democratic Republic of Congo—which possesses
6 about 25% of the global tantalum supply—off limits.

7 158. These factors and others had the effect of shrinking the available supply of
8 tantalum, despite the fact that tantalum electrolytic capacitors were still the primary driver of
9 demand for tantalum. Indeed, the U.S. Geological Survey estimated that tantalum electrolytic
10 capacitors to account for more than 60% of all tantalum use between 2007 and 2011.

11 159. Defendants producing aluminum electrolytic capacitors similarly faced pressures
12 from rising raw material prices for aluminum, including from some natural disasters affecting
13 supply chains such as the March 2011 Tōhoku earthquake in Japan. David Valletta, Executive
14 Vice President, Worldwide Sales for Defendant Vishay, stated that aluminum “seemed to be one
15 of the most highly impacted by the earthquake in Japan because a lot of major manufacturers and
16 major raw materials suppliers for aluminum electrolytic capacitors are located in the area of
17 Japan most affected by the quake.”⁴²

18 160. As the chart below demonstrates, between January 2009 and April 2011, prices of
19 aluminum rose from about \$1,500 per ton to over \$2,500 a ton—an increase of over 66%.

20
21
22
23
24
25

26 ⁴¹ Vulcan, *supra* note 14.

27 ⁴² Gina Roos, *Prices Could Rise for Aluminum Electrolytic Capacitors*, Digi-Key, Nov. 21,
28 2011, <http://www.digikey.com/en/articles/techzone/2011/nov/prices-could-rise-for-aluminum-electrolytic-capacitors>.



161. The price shocks in aluminum and tantalite ore forced Defendants into a making hard choices concerning the price at which they sold Capacitors. They could either: (1) absorb the entire increased cost of producing and keep prices of these capacitors the same; or (2) pass on to their customers either a percentage of or the full amount of their increased cost of producing these capacitors through increased prices.

162. Option (1) was not a viable option for Defendants because it would reduce profit margins significantly in an already weak market. Instead, Defendants collectively chose Option (2) and passed on some fixed percentage of the increased costs. Indeed, Kent Sterrett, Vice President of Sales and Operations at Defendant ELNA, confirmed as much saying “[w]e’ve seen our raw materials prices go up for aluminum, copper, rubber, and anything oil based, as well as transportation costs. We can absorb some of those things, but not all of them.”⁴³

163. However, while Option (2) was a strategically better choice than Option (1) from a profit-maximization perspective, the difficulty with employing that strategy is that a given Defendant may lose significant sales if its competitors undercut that Defendant’s prices. If a

⁴³ *Id.*

1 Defendant manufacturing Capacitors passed on too much of its increased production costs to its
2 customers, it risked being undercut by another manufacturer that decided to absorb more of the
3 cost and sold its Capacitors at a lower price.

4 164. Knowing that each of their competitors was faced with the same difficult choices,
5 Defendants determined it was in their best interests to coordinate the amount of their increased
6 production costs to pass on to their customers, preserving their current market shares and
7 avoiding competing for demand by lowering prices in a generally weak market.

8 165. Rather than compete and make independent business judgments about the pricing
9 of their Capacitors, Defendants found it much easier to maximize their collective profitability by
10 coordinating on pricing.

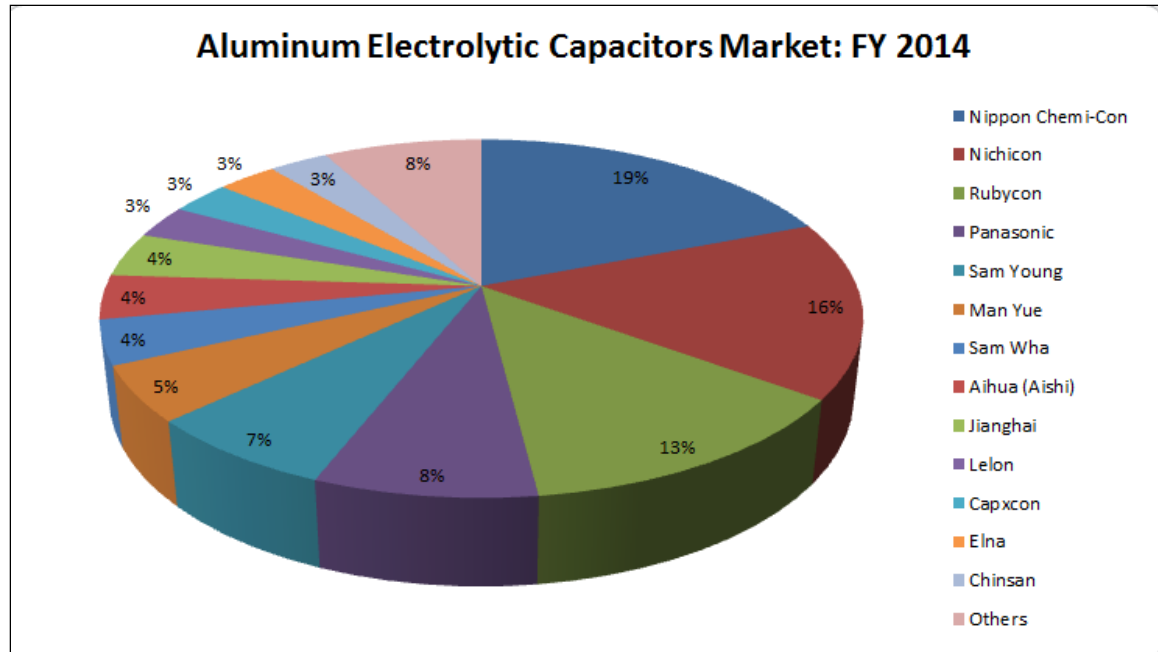
11 **6. Market for Capacitors Is Highly Concentrated**

12 166. A concentrated market is more susceptible to collusion and other anticompetitive
13 practices. The Capacitors market is highly concentrated. Defendants possess large market
14 shares in the Capacitors market.

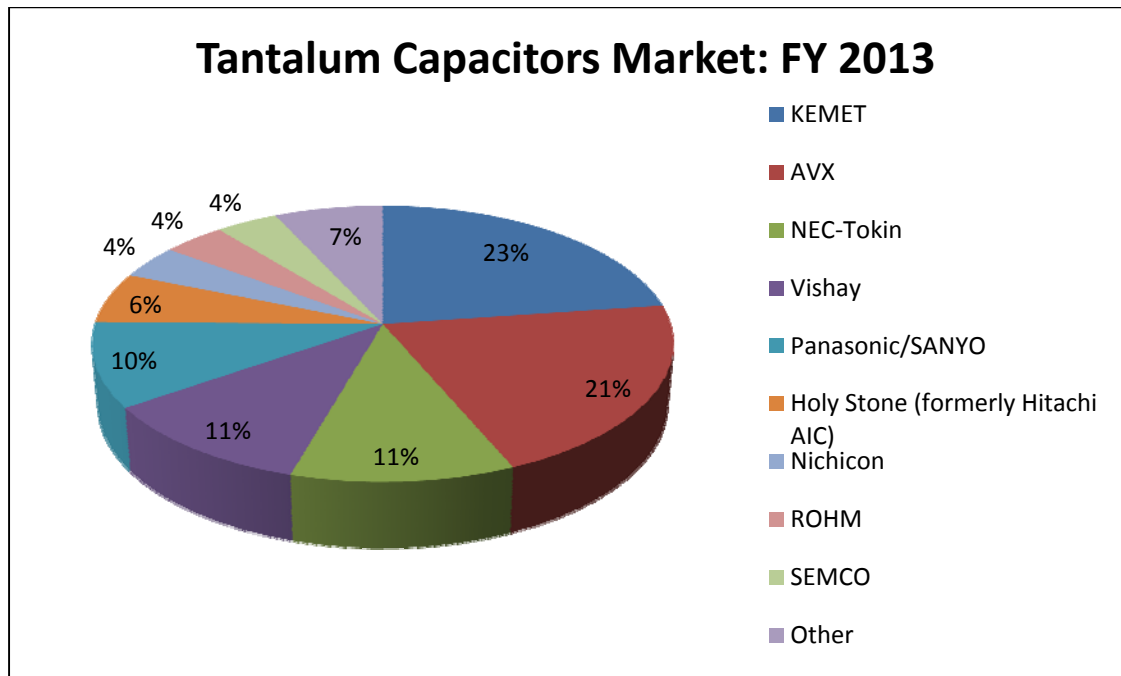
15 167. In the aluminum electrolytic capacitors segment, Defendants Nippon Chemi-Con,
16 Nichicon, Rubycon, Panasonic/SANYO, and ELNA collectively possess a 59% market share.
17 The chart below shows Defendants' individual market shares in the aluminum electrolytic
18 capacitor segment:⁴⁴

19
20
21
22
23
24
25
26
27
28

⁴⁴ Zogbi, *supra* note 1, at 171.

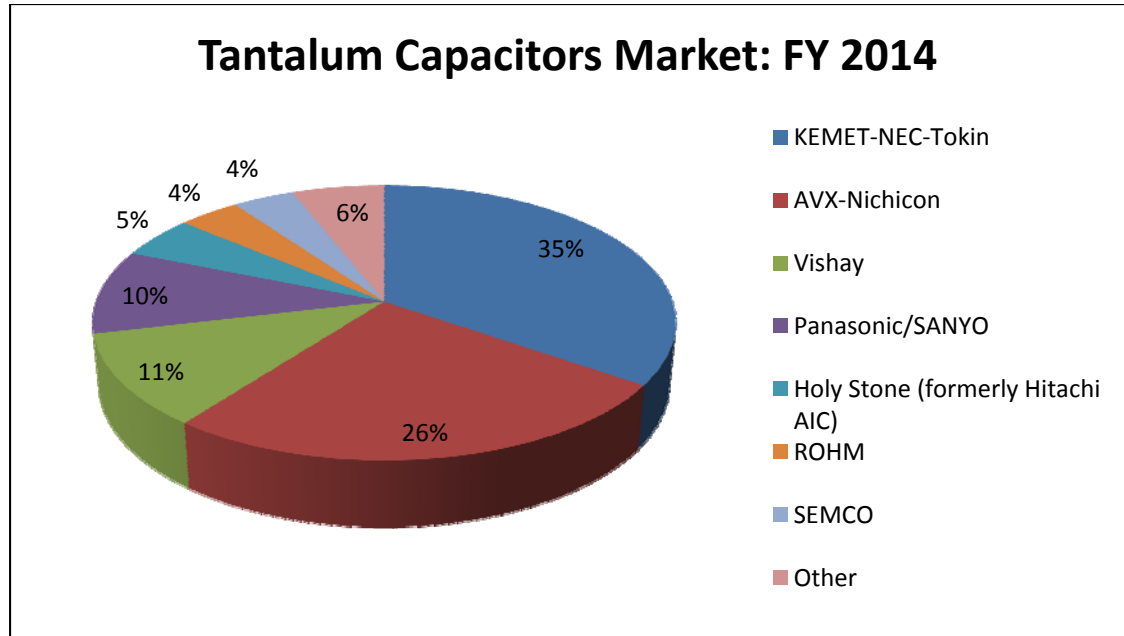


168. In the tantalum electrolytic capacitors segment, Defendants KEMET, AVX, Vishay, Panasonic/SANYO, ROHM, SEMCO, NEC-Tokin, and Nichicon collectively possessed an 87% market share in 2013. The chart below shows Defendants' individual market shares.⁴⁵



⁴⁵ *Id.* at 169.

169. These Defendants' collective market share has since grown to 89% in 2014 due to the acquisitions of Nichicon and NEC-Tokin by AVX and KEMET, respectively. The chart below illustrates this recent consolidation:



170. With the major producers of Capacitors participating in a conspiracy to fix, maintain, and/or stabilize the prices of Capacitors, customers had limited ability to turn elsewhere for supply when prices for Defendants' Capacitors increased or stabilized at non-competitive levels. Fringe competitors of Defendants were incapable of supplying the market with Capacitors under such circumstances. Thus, at all relevant times, customers were required to purchase Capacitors from Defendants at supracompetitive prices.

7. Defendants Had Ample Opportunities to Meet and Conspire

171. Defendants also had opportunities to meet and conspire through their membership in various trade associations such as the National Electronic Distributor Association ("NEDA"), the Electronic Components Industry Association ("ECIA"), the Japanese Electronics and Information Technology Industries Association ("JEITA"), the Japanese Electronics Show Association ("JESA"), and the Tantalum-Niobium International Study Center ("TIC").

172. NEDA is a not-for-profit trade association representing distributors of electronic components and their manufacturer-suppliers. Defendants KEMET, Panasonic (through its

1 subsidiaries Panasonic Electric Works and Panasonic Industrial Co.), SANYO, and Vishay were
2 members of NEDA prior to NEDA's merger with ECIA.

3 173. NEDA member benefits included the ability to attend "roundtable and taskforce
4 meetings where industry leaders collaborate on issues affecting all aspects of electronic
5 distribution."⁴⁶ One of these roundtables, the Components Roundtable, provided the
6 "opportunity for NEDA member distributors and manufacturers to meet and discuss issues
7 pertaining to handling, packaging, labeling, and shipping electronic components. By being
8 active in this roundtable, members have a voice in the direction and growth of electronic
9 distribution."⁴⁷

10 174. The Components Roundtable held several meetings between 2005 and 2009.
11 Employees from Defendants attended these meetings and had the opportunity to discuss the
12 implementation and execution of their conspiracy.

13 175. Several Defendants also are members of ECIA. ECIA's mission is to "promote
14 and improve the business environment for the authorized sale of electronic components by
15 manufacturers, their sales reps and distributors." The benefits members receive in joining ECIA
16 include, among other things: (a) networking; (b) industry research; (c) market statistics; (d)
17 special interest roundtables; and (e) conferences and exhibitions.

18 176. ECIA publishes "detailed market reports" that are only available to participating
19 members. According to the ECIA's website "[p]articipation in ECIA market reports is open to
20 all companies that are directly involved in the manufacture, marketing or supply of electronic
21 components from original sources for North America. Individuals from ECIA member
22 companies that qualify are eligible to participate in all ECIA market reports at no additional fee.

23
24
25
26 ⁴⁶ NEDA, Benefits of Membership,
<http://web.archive.org/web/20120718153910/http://www.nedassoc.org/BenefitsofMembership.php5>
(last accessed Sept. 22, 2014).

27 ⁴⁷ NEDA, Components Roundtable,
28 <http://web.archive.org/web/20130331172221/http://www.nedassoc.org/ComponentsRoundtable.php5>
(last accessed Sept. 22, 2014).

1 The reports cover the following areas: Components, Capacitors, Inductors, Resistor and Non-
2 Linear Resistors.”⁴⁸

3 177. As an example, ECIA publishes the Electronic Component Sales Trends
4 (“ECST”), a quarterly publication that “tracks viewpoints on the sales of electronic components
5 and the impact on end markets by surveying ECIA members, their peers and colleagues.” The
6 ECST “surveys sample individual opinions of knowledgeable professionals in the electronics
7 industry on current quarterly performance and look ahead to next quarter’s expectations.”⁴⁹
8 Among the details collected from participants are expected sales and projected lead times for the
9 production of their Capacitors.

10 178. Members of ECIA include Defendants Panasonic/SANYO, Vishay, KEMET, and
11 AVX. Moreover, several of Defendants’ officers have held or continue to hold positions on
12 ECIA’s Board of Directors, including: James A. Bruorton of KEMET (Manufacturer Director);
13 and Joel Smejkal of Vishay (Manufacturer Director). Mr. Bruorton is a member of the ECIA
14 Executive Committee.

15 179. ECIA holds regular meetings in the United States and elsewhere enabling
16 Defendants an opportunity to plan and discuss their conspiracy, including sharing sensitive
17 information about their sales and production issues in order to better implement and coordinate
18 their conspiracy.

19 180. In addition to NEDA and ECIA, many Defendants are members of JEITA. As
20 part of its mission, JEITA collects, organizes, and analyzes “statistics from within and outside of
21 the industry;” publishes and distributes “reports and reference materials on trends in and analyses
22 of the industry, production forecasts, technological trends in a variety of fields, and mid- to long-
23
24
25

26 ⁴⁸ ECIA, Statistics and Industry Data Council,
27 http://www.eciaonline.org/councils/statistics/stats_surveys.aspx.

28 ⁴⁹ ECIA, Electronic Component Sales Trends Survey, <http://www.ecianow.org/electronic-component-sales-trends-survey/>.

range projections;” and exchanges “statistics and information with trade associations in other countries.”⁵⁰

181. JEITA also maintains an Electronic Components Board comprised of various committees and subcommittees addressing various areas of the electronic components industry, including Capacitors. During the Class Period, JEITA’s members included Defendants ELNA, Hitachi, Nichicon, Nippon Chemi-Con, NEC-Tokin, Matsuo, Panasonic Corp., ROHM, Rubycon, Samsung, Taiyo Yuden, and Toshin Kogyo.

182. During the Class Period, representatives of Panasonic, Nippon Chemi-Con, and Taiyo Yuden were executive officers of various JEITA subcommittees, including the Research and Statistics Committee, Electronic Components Standardization Committee, and the Electronic Materials Committee. Significantly, nearly all Defendants were on the Passive Components Committee, including Defendants ELNA, Hitachi, Nichicon, NEC-Tokin, Matsuo, Panasonic Corp., ROHM, Rubycon, Taiyo Yuden, and Vishay (through its Japanese subsidiary, Vishay Japan Co., Ltd.).

183. Some of the “Projects” undertaken by the Passive Components Committee included:

- (a) Discussing market trends for passive components, including Capacitors;
- (b) Reporting to the Electronic Components Board for market analysis of passive components, including Capacitors;
- (c) Discussing forecast methodology and requests to forecast world demand of passive components, including Capacitors, in conjunction with the Electronic Components Research & Statistics Committee;
- (d) Preparing for the world statistics meeting by collecting data relating to Capacitors; and
- (e) Cooperating with JEITA regarding production forecasts in the area of passive components, including Capacitors.

⁵⁰ JEITA, JEITA’s Activities and Organization, <http://www.jeita.or.jp/english/about/activity/index.htm>.

184. Defendants' membership on this Committee provided the opportunity to discuss, plan, and execute their conspiracy.

185. Many Defendants are also participants in JESA, an association that "promote[s] and operate[s] various exhibitions which have been organized by [JEITA]."⁵¹ JESA holds annual conferences called the Cutting-edge IT & Electronics Comprehensive Exhibition or "CEATEC Japan." Members of JESA include Defendants Hitachi, NEC-Tokin (through its parent, NEC), Nichicon, Nippon Chemi-Con, Panasonic (parent of SANYO), ROHM, and Taiyo Yuden. CEATEC Japan is also sponsored by JEITA. Defendants' employees attended these annual conferences, which provided opportunities for them to discuss, plan, and execute their anticompetitive scheme in the Capacitors market.

186. Defendants who made tantalum electrolytic capacitors during the Class Period, including NEC-Tokin, Hitachi, Panasonic/SANYO, Nippon Chemi-Con, Nichicon, AVX, and KEMET, were also members of TIC, an international trade association based in Belgium. TIC has the following objectives:

- (a) Increase awareness of and promote the properties of tantalum;
- (b) Organize a general assembly of the members in October each year for business and technical presentations, the location of which would be chosen so that a tour of a member company facility in the area could be included;
- (c) Organize a week-long symposium in October about every five years for business and technical presentations, including tours of member company facilities in the area;
- (d) Collect statistics from members on industry raw material production, processor receipts and product shipments for tantalum, and report consolidated data to the membership on a semi-annual basis; and
- (e) Collect statistics from members on their receipts of tantalum powder and wire, and report to the capacitor manufacturers on a quarterly basis consolidated data.

⁵¹ Japanese Elecs. Show Assoc., About JESA, http://www.jesa.or.jp/en/jesa/#admin_

187. Defendants who produced tantalum electrolytic capacitors attended the annual meetings and conferences sponsored by TIC, providing opportunities to discuss and coordinate their conspiracy to fix, maintain, and/or stabilize the prices of tantalum electrolytic capacitors.

188. Thus, Defendants had ample opportunity to use their membership and participation in numerous trade associations such as NEDA, ECIA, JEITA, and TIC to implement and maintain their conspiracy.

G. Some Defendants Have A History of Anticompetitive Collusion

189. Some Defendants and their affiliates have also been the subject of recent antitrust probes involving other component parts and have pleaded guilty to criminal violations of the U.S. antitrust laws.

190. Around October 2005, Samsung Electronics Company, Ltd. and Samsung Semiconductor, Inc., affiliates of Defendant SEMCO, pleaded guilty to and paid a \$300 million criminal fine for participating in an international conspiracy to fix prices in the United States and elsewhere of Dynamic Random Access Memory (“DRAM”) from approximately April 1, 1999 through June 15, 2002. In addition, six Samsung executives pleaded guilty.

191. Around March 2011, SEMCO’s sister company, Samsung SDI Co., Ltd. pleaded guilty to and paid a \$32 million criminal fine for participating in a “global conspiracy to fix prices, reduce output, and allocate market share of color display tubes, a type of cathode ray tube used in computer monitors and other specialized applications” from approximately January 1997 through at least March 2006.⁵²

192. In September 2010, Defendant Panasonic Corp. pleaded guilty to and paid a \$49.1 million criminal fine for participating in a conspiracy to “suppress and eliminate competition by fixing prices to customers of household compressors” during the period October 14, 2004 through December 31, 2007.⁵³

⁵² U.S. Dep’t of Justice, Press Release, Samsung SDI Agrees to Plead Guilty in Color Display Tube Price-Fixing Conspiracy, March 18, 2011, http://www.justice.gov/atr/public/press_releases/2011/268592.htm.

⁵³ Plea Agreement at 3, *United States v. Panasonic Corp.*, 2:10-cr-20576 (E.D. Mich. Sept. 30, 2010), available at <http://www.justice.gov/atr/cases/f263200/263220.pdf>.

193. In July and August 2013, Defendants Panasonic Corp. and SANYO Electric Co. Ltd. agreed “to pay a total of \$56.5 million in criminal fines for their roles in separate price-fixing conspiracies involving automotive parts and battery cells.”⁵⁴

194. Defendant Panasonic Corp. was charged with “participating in a conspiracy to suppress and eliminate competition in the automotive parts industry by agreeing to rig bids for, and to fix, stabilize, and maintain the prices of, steering wheel switches, turn switches, wiper switches, and door courtesy switches” from at least as early as September 2003 until at least February 2010.⁵⁵ Panasonic pleaded guilty and agreed to pay a \$45.8 million criminal fine.

195. SANYO Electric Corp. was charged with participating in a conspiracy “to suppress and eliminate competition by fixing the prices of cylindrical lithium ion battery cells sold in the United States and elsewhere for use in notebook computer battery packs from about April 2007 to about September 2008.”⁵⁶ SANYO pleaded guilty and agreed to pay a \$10.731 million criminal fine.

CLASS ACTION ALLEGATIONS

196. Plaintiff brings this action on behalf of itself and as a class action under Rule 23(a), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure on behalf of the following Class:

All persons and entities who purchased Capacitors in the United States directly from any Defendant or any current or former subsidiary or affiliate of any Defendant during the Class Period, defined as January 1, 2009 through the present.

197. Excluded from the Class are Defendants, their parent companies, subsidiaries and affiliates, any co-conspirators, federal governmental entities and instrumentalities of the federal government, states and their subdivisions, agencies, and instrumentalities.

⁵⁴ U.S. Dep’t of Justice, Press Release, Panasonic and Its Subsidiary SANYO Agree to Plead Guilty in Separate Price Fixing Conspiracies Involving Automotive Parts and Battery Cells, July 18, 2013, http://www.justice.gov/atr/public/press_releases/2013/299495.htm.

⁵⁵ Plea Agreement at 3, *United States v. Panasonic Corp.*, 2:13-cr-20540 (E.D. Mich. Aug. 7, 2013) <http://www.justice.gov/atr/cases/f299900/299987.pdf>.

⁵⁶ Plea Agreement at 2-3, *United States v. SANYO Electric Co. Ltd.*, 4:13-cr-00472 (July 18, 2013).

1 198. While Plaintiff does not know the exact number of the members of the Class,
 2 Plaintiff believes there are at least hundreds of Class members located throughout the United
 3 States, making the Class so numerous and geographically dispersed that joinder of all members
 4 is impracticable.

5 199. There are questions of law and fact common to all members of the Class,
 6 including, but are not limited to:

7 (a) Whether Defendants and their co-conspirators engaged in a combination
 8 and conspiracy among themselves to fix, raise, maintain, and/or stabilize the prices of Capacitors
 9 sold in the United States;

10 (b) Whether Defendants and their co-conspirators violated Section 1 of the
 11 Sherman Act;

12 (c) The nature and character of the acts performed by Defendants and their
 13 co-conspirators in furtherance of the conspiracy;

14 (d) The identity of the participants of the alleged conspiracy;

15 (e) The duration of the alleged conspiracy and the acts carried out by
 16 Defendants and their co-conspirators in furtherance of the conspiracy;

17 (f) Whether the conduct of Defendants and their co-conspirators, as alleged in
 18 this Complaint, caused injury to the business or property of Plaintiff and the Class;

19 (g) The effect of the alleged conspiracy on the prices of Capacitors sold in the
 20 United States during the Class Period;

21 (h) Whether Plaintiff and the Class had any reason to know or suspect the
 22 conspiracy, or any means to discover the conspiracy;

23 (i) Whether Defendants and their co-conspirators fraudulently concealed the
 24 conspiracy's existence from the Plaintiff and the Class; and

25 (j) The appropriate class-wide measure of damages for the Class.

26 200. Plaintiff is a member of the Class, and Plaintiff's claims are typical of the claims
 27 of the Class. Plaintiff will fairly and adequately protect the interests of the Class.
 28

201. Plaintiff and all members of the Class are similarly affected by Defendants' wrongful conduct in that they paid artificially inflated prices for Capacitors purchased directly from the Defendants and/or their co-conspirators. In addition, Plaintiff is represented by counsel who are competent and experienced in the prosecution of antitrust and class action litigation.

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

203. Questions of law and fact common to the Class predominate over any questions affecting only individual members, including legal and factual issues relating to liability and damages.

204. A class action is superior to other available methods for the fair and efficient adjudication of this controversy. Treatment as a class action will permit a large number of similarly situated persons to adjudicate their common claims in a single forum simultaneously, efficiently, and without duplication of effort and expense that numerous individual actions would engender. The Class is readily definable and is one for which records should exist in the files of Defendants and their co-conspirators. Prosecution as a class action will eliminate the possibility of repetitious litigation.

205. Class treatment will also permit the adjudication of relatively small claims by many members of the Class who otherwise could not afford to litigate an antitrust claim such as is asserted in this Complaint. This class action presents no difficulties of management that would preclude its maintenance as a class action.

ANTICOMPETITIVE EFFECTS OF THE CONSPIRACY

206. As a result of their unlawful conduct, Defendants succeeded in fixing, raising, maintaining, or stabilizing prices for Capacitors in the United States during the Class Period.

207. Defendants' price-fixing conspiracy had the following effects, among others:

- (a) Competition in the market for Capacitors has been restrained;
- (b) Prices paid by Plaintiff and members of the Class for Capacitors were fixed, raised, maintained, and/or stabilized at artificially inflated levels in the United States;

1 (c) Plaintiff and the members of the Class who purchased Capacitors have
2 been deprived of free and open competition; and

3 (d) As a direct and proximate result of Defendants' unlawful conduct,
4 Plaintiff and members of the Class have been injured in their business and property.

5 208. By reason of the alleged violations of the antitrust laws as described herein,
6 Plaintiff and the Class have sustained injury to their businesses or property, having paid higher
7 prices for Capacitors than they would have paid in the absence of the Defendants' illegal
8 conduct, and, as a result, have suffered damages in an amount presently undetermined. This is
9 an injury of the type that the antitrust laws were meant to punish and prevent.

10 **EQUITABLE TOLLING AND FRAUDULENT CONCEALMENT**

11 209. Plaintiff repeats and re-alleges the allegations set forth above.

12 210. Plaintiff and the Class did not discover, and could not have discovered through
13 the exercise of reasonable diligence, the existence of the conspiracy alleged herein no earlier
14 than April 2, 2014, the date when news reports first disclosed that certain Defendants' offices
15 were raided by Chinese officials at the NDRC for their role in an alleged conspiracy to restrain
16 trade in the Capacitors market.

17 211. No information in the public domain was available to Plaintiff and members of
18 the Class prior to the announced dawn raids on April 2, 2014, which revealed sufficient
19 information to suggest that the Defendants were involved in an anticompetitive conspiracy to
20 restrain trade in the Capacitors market.

21 212. Throughout the Class Period, Defendants affirmatively and fraudulently
22 concealed their unlawful conduct against Plaintiff and the Class.

23 213. Because Defendants' conspiracy was actively concealed until April 2, 2014,
24 Plaintiff and members of the Class were unaware of Defendants' unlawful conduct alleged
25 herein and did not know that they were paying artificially high prices for Capacitors.

26 214. The affirmative acts of Defendants alleged herein, including acts in furtherance of
27 the conspiracy, were concealed and carried out in a manner that precluded detection.
28

1 215. Defendants agreed among themselves not to discuss publicly or otherwise reveal
2 the nature and substance of the acts and communications in furtherance of their illegal
3 conspiracy.

4 216. Defendants met and communicated secretly concerning the pricing and marketing
5 of Capacitors so as to avoid detection.

6 217. By its very nature, Defendants' price-fixing conspiracy was self-concealing.

7 218. Moreover, Plaintiff and members of the Class could not have discovered the
8 conspiracy at an earlier date by the exercise of reasonable diligence because of the deceptive
9 practices and techniques of secrecy employed by Defendants to avoid detection of, and
10 fraudulently conceal, their contract, combination, or conspiracy. The conspiracy as alleged
11 herein was fraudulently concealed by Defendants through various means and method, including,
12 but not limited to, secret meetings and surreptitious communications among Defendants by the
13 use of telephone and/or in-person meetings at trade association gatherings (and elsewhere) in
14 order to prevent the existence of written records.

15 219. Because the alleged conspiracy was both self-concealing and affirmatively
16 concealed by Defendants and their co-conspirators until April 2, 2014, Plaintiff and the members
17 of the Class had no knowledge of the alleged conspiracy or of any facts or information which
18 would have caused a reasonably diligent person to investigate whether a conspiracy existed.

19 220. None of the facts or information available to Plaintiff and members of the Class
20 prior to April 2, 2014, if investigated with reasonable diligence, could or would have led to the
21 discovery of the conspiracy alleged herein prior to that date.

22 221. For these reasons, the statute of limitations applicable to Plaintiff and the Class'
23 claims alleged herein was tolled and did not begin to run until April 2, 2014.

24 **CLAIMS FOR RELIEF**

25 **COUNT ONE**

26 **(Violation of Section 1 of the Sherman Act – Conspiracy to Restrain Trade)**

27 222. Plaintiff repeats and re-alleges the allegations set forth above.
28

1 223. Beginning at least as early as January 1, 2009, and continuing thereafter,
2 Defendants and their co-conspirators, by and through their officers, directors, employees, agents,
3 or other representatives, entered into a continuing agreement, understanding, and conspiracy in
4 restraint of trade to artificially raise, fix, maintain, and/or stabilize prices for Capacitors sold in
5 the United States in violation of Section 1 of the Sherman Act (15 U.S.C. § 1).

6 224. The conspiracy consisted of a continuing agreement among Defendants and their
7 co-conspirators to fix, raise, maintain, and/or stabilize prices for Capacitors and/or engage in the
8 allocation of markets and customers for Capacitors sold in the United States.

9 225. In formulating and effectuating the conspiracy, Defendants and their co-
10 conspirators unlawfully agreed to, among other acts:

11 (a) Fix, increase, maintain and/or stabilize prices of Capacitors in the United
12 States;

13 (b) Implement and monitor the conspiracy among cartel members;

14 (c) Market Capacitors in the United States as being available at the agreed
15 upon supracompetitive prices; and

16 (d) Sell Capacitors at the agreed-upon supracompetitive prices.

17 226. The activities described above have been engaged in by Defendants and their co-
18 conspirators for the purpose of effectuating the unlawful agreement to fix, raise, maintain, and/or
19 stabilize prices of Capacitors in the United States.

20 227. The conspiracy had its intended effect, as Defendants benefited from their
21 collusively-set price increases, as described herein.

22 228. Defendants' unlawful conduct resulted in artificially high or otherwise
23 supracompetitive prices charged by Defendants and their co-conspirators to Plaintiff and
24 members of the Class for Capacitors sold in the United States.

25 229. Plaintiff and members of the Class had to pay more for Capacitors than they
26 otherwise would have paid in a competitive marketplace.

27 230. As a direct and proximate result of Defendants' conspiracy, Plaintiff and members
28 of the Class have been injured and financially damaged in the respective businesses and

1 property, in amounts which are presently undetermined. Plaintiff's injuries consist of paying
 2 higher prices to purchase Capacitors than it would have paid absent Defendants' conduct.
 3 Plaintiff's injuries are of the type the antitrust laws were designed to prevent and flow from that
 4 which makes Defendants' conduct unlawful.

5 231. Accordingly, Plaintiff and the Class seek damages, to be trebled pursuant to
 6 federal antitrust law, and costs of suit, including reasonable attorneys' fees.

7 232. In addition, Plaintiff and the Class seek injunctive relief enjoining all Defendants
 8 and their co-conspirators for continuing to engage in the anticompetitive practices described in
 9 this Complaint.

10 **RELIEF SOUGHT**

11 Accordingly, Plaintiff demands relief as follows:

12 (A) That the Court certify this lawsuit as a class action under Rule 23(a), (b)(2), (b)(3)
 13 of the Federal Rules of Civil Procedure, that Plaintiff be designated as a class representative, and
 14 that Plaintiff's counsel be appointed as Class counsel;

15 (B) That the unlawful conduct alleged herein be adjudged and decreed to be in
 16 violation of Section 1 of the Sherman Act;

17 (C) That Defendants, their subsidiaries, affiliates, successors, transferees, assignees
 18 and their respective officers, directors, partners, agents, and employees and all other persons
 19 acting or claiming to act on their behalf, be permanently enjoined and restrained from continuing
 20 and maintaining the conspiracy alleged in the Complaint;

21 (D) That the Court award Plaintiff and the Class damages against Defendants for their
 22 violations of federal antitrust laws, in an amount to be trebled in accordance with such laws, plus
 23 interest;

24 (E) That the Court award Plaintiff and the Class their costs of suit, including
 25 reasonable attorneys' fees and expenses, as provided by law; and

26 (F) That the Court directs such further relief it may deem just and proper.
 27
 28

DEMAND FOR JURY TRIAL

Pursuant to Rule 38(b) of the Federal Rules of Civil Procedure, Plaintiff demands a jury trial as to all issues triable by a jury.

DATED: October 22, 2014

BERMAN DEVALERIO

By: /s/ Todd A. Seaver
Todd A. Seaver

Joseph J. Tabacco, Jr. (SBN 75484)
Todd A. Seaver (SBN 271067)
One California Street, Suite 900
San Francisco, CA 94111
Tel: (415) 433-3200
Fax: (415) 433-6382
jtabacco@bermandevalerio.com
tseaver@bermandevalerio.com

LABATON SUCHAROW LLP

Gregory S. Asciolla
Eric J. Belfi
Matthew J. Perez
140 Broadway
New York, NY 10005
Tel: (212)-907-0700
Fax: (212)-818-0477
gasciolla@labaton.com
ebelfi@labaton.com
mperez@labaton.com

MASHAYEKH & CHARGOIS, LLP

Damon J. Chargois
Kamran Mashayekh
One Riverway
Suite 1700
Houston, TX 77056
Tel: (713) 840-6313
Fax: (713) 622-1937
damon@cmhllp.com
kamran@cmhllp.com

Counsel for Plaintiff and the Proposed Class