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**UNITED STATES DISTRICT COURT
 NORTHERN DISTRICT OF CALIFORNIA
 SAN FRANCISCO DIVISION**

TOY-KNOWLOGY INC., on behalf of itself
 and all others similarly situated,

Plaintiff,

v.

**Elna Co., Ltd.,
 Elna America Inc.,
 Hitachi Chemical Co., Ltd.,
 Hitachi Chemical Co. America, Ltd.,
 KEMET Corporation,
 KEMET Electronics Corporation,
 Matsuo Electric Co., Ltd.,
 NEC TOKIN Corporation,
 NEC TOKIN America Inc.,
 Nichicon Corporation,
 Nichicon America Corporation,
 Nippon Chemi-Con Corporation,
 United Chemi-Con, Inc.,
 Panasonic Corporation,
 Panasonic Corporation of North America,
 SANYO Electric Co., Ltd.,
 SANYO Electronic Device (U.S.A.)
 Corporation,
 Rubycon Corporation,
 Rubycon America Inc., and
 Toshin Kogyo Co., Ltd.**

Defendants.

Case No.

CLASS ACTION COMPLAINT

JURY DEMAND

CLASS ACTION COMPLAINT; JURY DEMAND

TABLE OF CONTENTS

I.	OVERVIEW	1
II.	JURISDICTION AND VENUE	8
III.	PARTIES	10
A.	Plaintiff	10
B.	Defendants	10
1.	Elna Defendants	11
2.	Hitachi Defendants.....	11
3.	KEMET Defendants.....	12
4.	Defendant Matsuo Electric Co., Ltd.	12
5.	NEC-TOKIN Defendants.....	13
6.	Nichicon Defendants.....	13
7.	Nippon Chemi-Con Defendants.....	14
8.	Panasonic Defendants	15
9.	Rubycon Defendants	16
10.	Defendant Toshin Kogyo Co., Ltd.....	17
IV.	AGENTS AND CO-CONSPIRATORS	17
V.	FACTUAL ALLEGATIONS	17
A.	Capacitor Background	17
B.	Capacitor Structure	20
C.	Capacitor Technologies	21
1.	Aluminum Electrolytic Capacitors	23
2.	Tantalum Electrolytic Capacitors	25
D.	Capacitors Are Traceable Through the Chain of Distribution.....	28
E.	The Capacitor Industry	29
1.	Aluminum Electrolytic Capacitors	29
2.	Tantalum Electrolytic Capacitors	30

1	F.	The Characteristics of the Electrolytic Capacitor Market Render Collusion More Plausible.....	30
2	1.	The Electrolytic Capacitor Industry Has High Barriers to Entry.....	30
3	2.	The Demand for Electrolytic Capacitors Is Inelastic.	33
4	3.	The Electrolytic Capacitor Industry Is Highly Concentrated.	34
5	4.	Electrolytic Capacitors Are Homogenous Products.	36
6	5.	Defendants Had Ample Opportunities to Conspire	38
7	6.	Indirect Purchasers of Capacitors Lacked Buying Power.....	41
8	7.	Falling Demand for Capacitors Over Time.	42
9	a.	Demand for Capacitors in the Americas	43
10	b.	Demand for Capacitors Over Time	44
11	8.	Capacitor Manufacturers Had Relationships in Other Price-Fixed Markets.	45
12	VI.	DEFENDANTS COLLUDED TO KEEP THE PRICE OF CAPACITORS ELEVATED DURING THE CLASS PERIOD	45
13	A.	Defendants Had a Motive to Conspire.....	46
14	B.	The Price Movements of Capacitors During the Class Period Are Consistent with Collusion, Not Competition.	49
15	1.	Pricing Behavior Was Inconsistent with Cost.	49
16	2.	Pricing Behavior Was Inconsistent with Demand.	50
17	C.	Defendants Conspired to Constrain Supply.	52
18	D.	Defendants Had Many Opportunities to Conspire.....	52
19	1.	During the Conspiracy Period, Defendants Met and Exchanged Confidential Business Information.	52
20	2.	The Same Departments and Executives Involved in Capacitor Production and Sales Also Fixed Lithium Ion Battery Prices.	52
21	a.	Sanyo.....	53
22	b.	Panasonic	55
23	3.	Defendants Used Trade Associations to Conspire.....	55
24	E.	Government Investigations	55
25	F.	Likely Existence of a Cooperating Defendant	57
26	G.	Guilty Pleas in Related Markets	58

1	1.	Hitachi	58
2	2.	Panasonic/Sanyo	58
3	3.	NEC TOKIN	59
4	H.	The Structure and Characteristics of the Capacitor Market Facilitated Collusion and Supported the Capacitor Cartel.	59
5	1.	Inelastic Demand for Capacitors Facilitated the Cartel.	60
6	2.	Decreasing Demand for Aluminum and Tantalum Capacitors Provided an Incentive to Collude.	60
7	3.	Commoditization of Capacitors Facilitated the Cartel.	61
8	4.	Lack of Buying Power Facilitated the Cartel.	61
9	5.	The Highly Concentrated Capacitor Market Facilitated the Cartel.	62
10	6.	High Barriers to Entry Facilitated the Cartel.	62
11	7.	The Availability of Information About Competitor Business and Activities Facilitated the Cartel.	63
12	8.	Relationships Among Capacitor Manufacturers in Other Markets Facilitated the Cartel.	63
13	VII.	THE CAPACITOR CARTEL TARGETED THE UNITED STATES.	63
14	VIII.	CLASS ACTION ALLEGATIONS	66
15	IX.	ANTITRUST INJURY	68
16	X.	ACTIVE CONCEALMENT	69
17	A.	False Representations Regarding Raw Material Shortages	69
18	B.	False Representations Regarding Production Delays	70
19	FIRST CLAIM FOR RELIEF		72
20	Violations of the Sherman Act, 15 U.S.C. § 1		72
21	(on behalf of Plaintiff and the Class Against All Defendants)		72
22	SECOND CLAIM FOR RELIEF		73
23	Violations of California's Antitrust Law, ...		73
24	The Cartwright Act, Cal. Bus. & Prof. Code §§ 16720, <i>et seq.</i>		73
25	(on behalf of Plaintiff and the Class Against All Defendants)		73
26	THIRD CLAIM FOR RELIEF		75
27	Violations of California's Unfair Competition Law, ...		75
28	Cal. Bus. & Prof. Code §§ 17200, <i>et seq.</i>		75
	(on behalf of Plaintiff and the Class Against All Defendants)		75

XI.	REQUEST FOR RELIEF	76
	JURY DEMAND	78

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Plaintiff **Toy-Knowlogy Inc.**, individually and on behalf of a Class of all those similarly situated, brings this action for damages and injunctive relief under the antitrust laws of the United States and of California against defendants named herein, and alleges, based upon the investigation of counsel and on information and belief, as follows:

I. OVERVIEW

1. This lawsuit is brought against defendants¹, the leading manufacturers of capacitors sold in the United States, for engaging in a massive conspiracy to unlawfully fix and artificially raise the prices of aluminum and tantalum electrolytic capacitors. Defendants' conspiracy successfully targeted various industries in the United States, raising prices for purchasers of aluminum and tantalum electrolytic capacitors.

2. Capacitors are one of the most common electronic components in the world. Aluminum and tantalum electrolytic capacitors are widely used electronics components used in a range of industries. They are used to store electric energy and filter or regulate the flow of current through electric circuits. Virtually all electronic products—from cellphones and personal computers to home appliances and automobiles—contain them, often hundreds of them.

3. Since at least March 2014, the United States Department of Justice ("DOJ"), China's National Development and Reform Commission ("NDRC"), Japan's Fair Trade Commission, South Korea's Free Trade Commission, Taiwan's Fair Trade Commission, and the Europe Commission have been investigating a conspiracy among capacitor manufacturers. At least one capacitor manufacturer—Panasonic Corporation—has reported anticompetitive conduct related to capacitors to competitor authorities that may have violated the antitrust laws without admitting that it violated them.

¹ Elna Co., Ltd., Elna America Inc., Hitachi Chemical Co., Ltd., Hitachi Chemical Co. America, Ltd., KEMET Corporation, KEMET Electronics Corporation, Matsuo Electric Co., Ltd., NEC TOKIN Corporation, NEC TOKIN America Inc., Nichicon Corporation, Nichicon America Corporation, Nippon Chemi-Con Corporation, United Chemi-Con, Inc., Panasonic Corporation, Panasonic Corporation of North America, SANYO Electric Co., Ltd., SANYO Electronic Device (U.S.A.) Corporation, Rubycon Corporation, Rubycon America Inc., and Toshin Kogyo Co., Ltd. (collectively, "defendants").

1 4. ***“This has the hallmarks of a major international cartel investigation,”*** said Philip
2 Giordano, counsel at Kaye Scholer LLP and a 15-year veteran of the DOJ’s Antitrust Division
3 (emphasis added). “The DOJ and its foreign counterparts are conducting ***parallel investigations.***
4 Many of the manufacturers under investigation are ***international conglomerates*** that sell into
5 ***global markets***” (emphasis added).

6 5. Over the last decade, three market forces together created a motive to conspire to
7 stem losses from a decreasingly profitable capacitor market: (1) capacitor purchasers began to
8 redesign their products in favor of cheaper, ceramic capacitors and away from more expensive,
9 aluminum and tantalum electrolytic capacitors; (2) the global recession of 2008 and 2009 reduced
10 consumer demand for electronics that drove capacitor consumption; and (3) consumer demand for
11 smartphones and tablet computers decreased demand for other audio and visual consumer electronic
12 products and for notebook and desktop computers, all of which consumed more capacitors on
13 average than smartphones and tablet computers.

14 6. Faced with declining demand for capacitors, defendants sought to fix the price of
15 capacitors above competitive levels by coordinating prices and constraining supply. Beginning in
16 or around 2005 to the present (“Class Period”), defendants’ pricing of aluminum and tantalum
17 electrolytic capacitors were inconsistent with cost of and demand for capacitors.

18 7. To form and effectuate their conspiracy, throughout the conspiracy period,
19 defendants had collusive meetings independently and through trade associations. For example,
20 from 2005 to 2007, the Sanyo, Panasonic and NEC TOKIN defendants conducted meetings that
21 provided an opportunity to conspire about capacitor production and pricing. Some of these
22 meetings were described by the Sanyo defendants’ Takanao Matsumoto in a March 24, 2007 e-mail
23 in which he stated that he “has been getting really drunk with NEC TOKIN and exchanging
24 information for a while.”

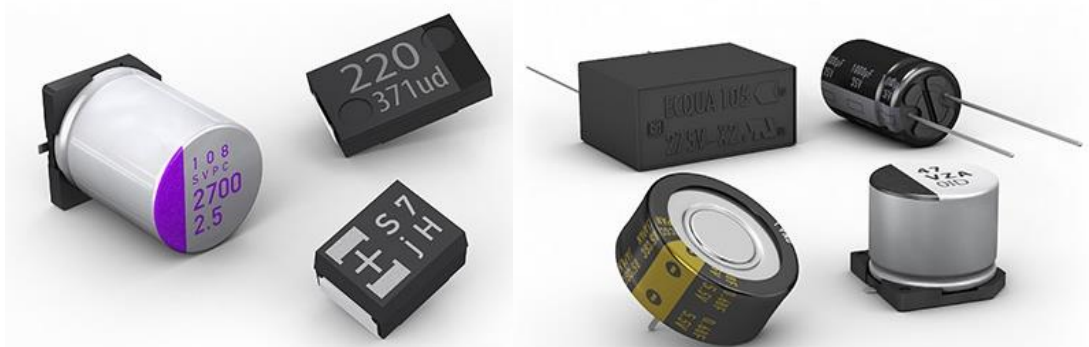
25 8. This conspiracy has similar characteristics to other price-fixing conspiracies:
26 (i) pricing behavior inconsistent with a competitive market; (ii) reduced production to create an
27 artificial shortage of supply; (iii) frequent meetings that provided opportunities to conspire;

1 (iv) decreasing or stagnant long-term demand; (v) inelastic short-term demand; (vi) a highly
2 concentrated market; (vii) high barriers to entry into the capacitor market; (viii) commoditization of
3 technology and (ix) lack of buying power among capacitor buyers.

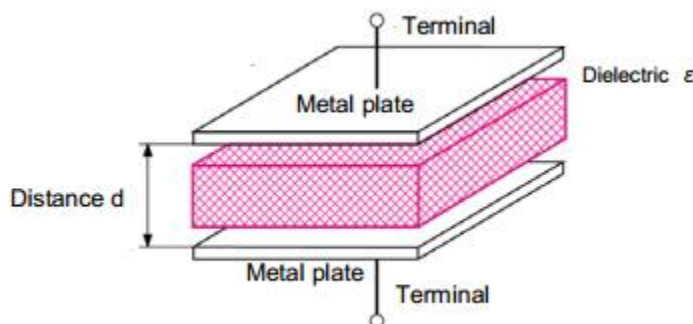
4 9. Plaintiff seeks to represent first-level indirect purchasers of aluminum and/or tantalum
5 electrolytic capacitors during the period from and including January 1, 2005 through such time as
6 the anticompetitive effects of defendants' conduct ceased ("Class Period"). These indirect
7 purchasers purchased aluminum and/or tantalum electrolytic capacitors ***for retail as stand-alone***
8 ***products*** from distributors, who purchased these capacitors for wholesale as stand-alone products
9 from defendants and act as direct purchaser intermediaries between first-level indirect purchasers
10 and defendants. The aluminum and/or tantalum electrolytic capacitors are discrete and identifiable
11 products that pass through the chain of distribution in substantially the same form from defendants
12 to distributors to retailers. The wholesale and retail markets for aluminum and tantalum electrolytic
13 capacitors are therefore identical except as to the purchasers.

14 10. "Capacitors," as used in this Complaint, are devices used to store electricity.
15 Although the form of capacitors varies widely (Figure 1), a typical capacitor consists of two or
16 more parallel, but not touching, electrical conductors (plates), which are electrically separated by a
17 dielectric (insulator) (Figure 2). When connected to an alternating current ("AC") circuit, a
18 capacitor allows current to flow through it with little or no resistance. When connected to a direct
19 current ("DC") circuit, a capacitor blocks the flow of current through it and charges up to its supply
20 voltage because the dielectric is a non-conductive insulator. A capacitor therefore has the capacity
21 to store energy in the form of an electrostatic field between its plates and is used as part of electrical
22 circuits in many common electronic devices.

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Figure 1: Capacitor Forms

Sources: <http://na.industrial.panasonic.com/products/capacitors>; <http://na.industrial.panasonic.com/products/capacitors/aluminum-gold-and-film-capacitors>

Figure 2: Basic Structure

Source: http://industrial.panasonic.com/jp/i/29880/TAL_E/TAL_E.pdf

11. Defendants manufactured, marketed, and/or sold aluminum and/or tantalum electrolytic capacitors in and into the United States during the Class Period. Defendants and other co-conspirators (as yet unknown) agreed, combined and conspired to fix, raise, maintain and/or stabilize prices, and to allocate market shares for aluminum and/or tantalum electrolytic capacitors. Defendants collectively controlled a majority of the global market for aluminum and tantalum electrolytic capacitors. The manufacture and sale of aluminum and tantalum electrolytic capacitors is a billion-dollar industry.

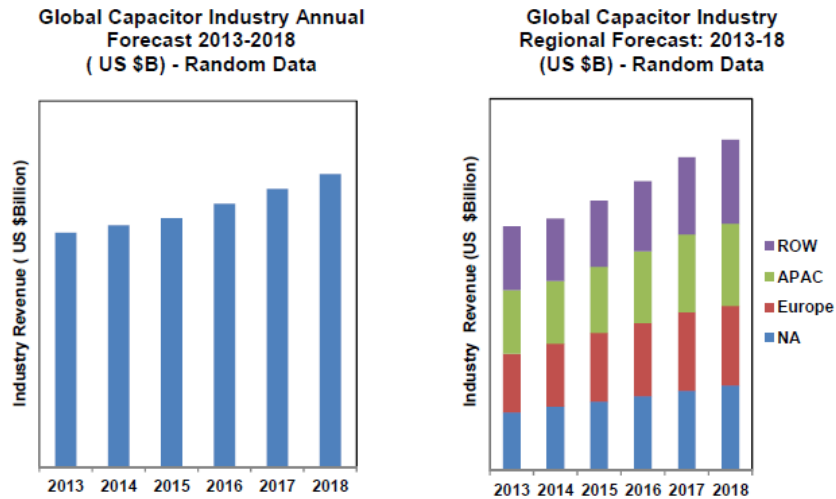
12. Plaintiff and members of the Class indirectly purchased aluminum and/or tantalum electrolytic capacitors from defendants, their divisions, subsidiaries or affiliates, or their co-conspirators during the Class Period. Plaintiff and members of the Class purchased these capacitors through an affiliated or unaffiliated distributor or reseller.

13. Forbes, a leading source for business news and financial information, reported: “Capacitors are **ubiquitous electronic components** found in a vast array of electronic devices, from consumer electronics to heavy machinery. **Manufacturers produce trillions of them a year**” (emphasis added). There can be hundreds or thousands of them in a single finished product. Most capacitors are relatively inexpensive—in 2013, the average price **per thousand units** was \$38.12 for aluminum electrolytic capacitors and \$106.18 for tantalum electrolytic capacitors.

14. Capacitors can be manufactured to serve many purposes—from the smallest plastic capacitor in a calculator to a supercapacitor that powers a commuter bus. NASA relies on glass capacitors to wake up space shuttle circuitry and deploy space probes. Indeed, capacitors are found in almost every electronic device and are one of the most ubiquitous passive components. Capacitors have numerous essential applications in circuit design—providing flexible filter options, noise reduction, power storage, and sensing capabilities, among others.

15. There is no end in sight for growth in the general capacitor market, which includes aluminum and tantalum electrolytic capacitors. In 2013, global sales of capacitors exceeded 1.3 trillion units and global revenue for capacitors was more than \$16 billion. A report from Research and Markets, an industry research firm, forecasts that the **capacitor market will reach \$20.2 billion in revenue by 2018**. The report also predicts a 2.5 percent compound annual growth rate for capacitors worldwide, driven by overall electronic industry trends, including demand for compact, portable, and more complex electronic devices and the accompanying need for better, smaller, and more efficient component solutions. The key forces driving growth in the capacitor market long term are the increasing demand for consumer electronics, such as notebooks, ultrabooks, and smartphones.

16. In fact, one report—Global Capacitor Industry 2013-2018: Trend, Profit, and Forecast Analysis—predicts that both industry revenue and industry revenue by region will increase steadily across the world, which was grouped into four regions: North America (“NA”), Europe, Asia-Pacific (“APAC”), and the rest of the world (“ROW”) (Figure 3).

Figure 3: Global Capacitor Industry Revenue

Source: Research and Markets

17. On June 9, 2014, the DOJ's Antitrust Division acknowledged that its latest international cartel investigation involved capacitor manufacturers—***potentially worldwide***. The DOJ's investigation focuses on aluminum, tantalum, carbon capacitors (supercapacitors), and plastic film capacitors. Press reports indicate that a Japanese manufacturer of capacitors has applied to the DOJ's Corporate Leniency Program pursuant to the Antitrust Criminal Penalty Enhancement and Reform Act ("ACPERA"), which limits the civil liability of a leniency applicant to the actual damages attributable to the entity's conduct rather than the usual joint and several and trebled damages faced by antitrust defendants.

18. Plaintiff believes that the leniency applicant is Defendant Panasonic Corporation. The DOJ investigation into the capacitor industry stemmed from a "leniency plus" situation in the DOJ investigation into the automotive parts industry. A leniency plus situation arises when a company unable to obtain leniency for one conspiracy can be given a lighter sentence by reporting its involvement in a separate, as yet undiscovered conspiracy. Panasonic Corporation is a named defendant in three parts cases in *In re Automotive Parts Antitrust Litigation* ("Auto Parts"), MDL No. 2311 (E.D. Mich.), including *In re Switches* (Case No. 2:13-cv-01300), *In re Steering Angle Sensors* (Case No. 2:13-cv-01600), and *In re High Intensity Discharge Ballasts* (Case No. 2:13-cv-

01700). Plaintiff's counsel is Interim Co-lead Counsel for the End-Payor Plaintiffs in all of these cases under *Auto Parts*.

19. Plaintiff believes Panasonic Corporation approached the DOJ and NDRC about the capacitors conspiracy after the DOJ charged and penalized it for participating in the switches, steering angle sensors, and high intensity discharge ballasts conspiracies.

20. The DOJ is coordinating its investigation with its counterparts in Asia and Europe, including the China NDRC, which ***could be a first for both agencies***. The NDRC raided two Japanese capacitor manufacturers in China in March 2014 after which two Japanese companies—defendant NEC TOKIN and non-defendant Taiyo Yuden²—acknowledged they were cooperating with investigators. Had the Chinese government not conducted the raids, the DOJ would not have disclosed an investigation so early on due to obstruction of justice concerns. Dawn raids are typically conducted simultaneously around the world to minimize evidence destruction.

21. Competition authorities in Japan, Korea, Singapore, Taiwan, and the European Union have initiated their own investigations into the capacitor industry. On June 24, 2014, the Japan Fair Trade Commission (“JFTC”) carried out dawn raids on eight companies suspected of forming ***a cartel extending overseas from Japan***. These companies were Elna Co., Hitachi Chemical Co., Matsuo Electric Co., Ltd., NEC TOKIN Corporation, Nichicon Corporation, Nippon Chemi-Con Corporation, Panasonic Corporation, and Rubycon Corporation. Another news source stated that the JFTC also raided a ninth company, SANYO Electric Co., Ltd., on June 24, 2014. These nine companies control the majority of the Japanese market for capacitors. According to the JFTC official, these companies allegedly formed cartels in the United States and China. The Korea Fair Trade Commission (“KFTC”) visited Panasonic Corporation in Korea in May 2014.

22. Defendants and their co-conspirators participated in a combination and conspiracy to suppress and eliminate competition in the capacitor industry by agreeing to fix, raise, maintain and/or stabilize prices, and to allocate market shares for aluminum and/or tantalum electrolytic

² Taiyo Yuden manufactures ceramic capacitors only. Plaintiffs have not named it as a defendant in this Complaint but reserve the right to do so upon further investigation.

capacitors sold to Plaintiff and the Class in the United States. The combination and conspiracy engaged in by the defendants and their co-conspirators was in violation of the Sherman Act and California's antitrust and unfair competition laws.

23. According to the JFTC, the capacitors conspiracy intensified after the 2008 economic crisis and again, after the 2011 Great East Japan Earthquake. Defendants aggressively increased their control of supply and coordinated price hikes to ensure supra-competitive prices for their products.

24. As a direct result of the anticompetitive and unlawful conduct alleged herein, Plaintiff and the Class paid artificially inflated prices for aluminum and tantalum electrolytic capacitors during the Class Period and have thereby suffered antitrust injury to their business or property.

II. JURISDICTION AND VENUE

25. Plaintiff brings this action under Section 16 of the Clayton Act (15 U.S.C. § 26) to secure equitable and injunctive relief against defendants for violating the Sherman Act, 15 U.S.C. § 1. Plaintiff also asserts claims for actual and exemplary damages and injunctive relief pursuant to California's antitrust and unfair competition laws, and seeks to obtain restitution, recover damages, and secure other relief against defendants for violation of those state laws. Plaintiff also seeks attorneys' fees, costs, and other expenses under federal and state law.

26. This Court has subject matter jurisdiction pursuant to Section 16 of the Clayton Act, 15 U.S.C. § 26. This Court also has subject matter jurisdiction of the California state law claims pursuant to diversity of citizenship, 28 U.S.C. § 1332(d), and the Class Action Fairness Act of 2005 ("CAFA"), 28 U.S.C. § 1711, *et seq.*, in that: (i) this is a class action in which the matter or controversy exceeds the sum of \$5,000,000, exclusive of interest and costs, and in which some members of the proposed class are citizens of a state different from some defendants; and (ii) Plaintiff's California state law claims form part of the same case or controversy as their federal claims under Article III of the United States Constitution.

27. Venue is proper in this District pursuant to Section 12 of the Clayton Act (15 U.S.C. § 22), and 28 U.S.C. §§ 1391 (b), (c), and (d), because a substantial part of the events giving rise to Plaintiff's claims occurred in this District, a substantial portion of the affected interstate trade and commerce discussed below has been carried out in this District, and one or more of the defendants reside, are licensed to do business in, are doing business in, had agents in, or are found or transact business in this District.

28. This Court has *in personam* jurisdiction over each of the defendants because each defendant, either directly or through the ownership and/or control of its United States subsidiaries, *inter alia*: (a) transacted business in the United States, including in this District; (b) directly or indirectly sold or marketed substantial quantities of aluminum and/or tantalum capacitors throughout the United States, including in this District; (c) had substantial aggregate contacts with the United States as a whole, including in this District; or (d) were engaged in an illegal price-fixing conspiracy that was directed at, and had a direct, substantial, reasonably foreseeable and intended effect of causing injury to, the business or property of persons and entities residing in, located in, or doing business throughout the United States, including in this District. Defendants also conduct business throughout the United States, including in this District, and they have purposefully availed themselves of the laws of the United States.

29. In fact, the DOJ's investigation into the capacitor industry is originating out of its San Francisco office, which has been investigating cartels in the computer parts industry for the past decade, leading to millions of dollars in fines against manufacturers of memory, liquid crystal displays, optical disc drives, and lithium-ion batteries. Although a former DOJ prosecutor stated that the DOJ is in the early stages of its investigation and there is some time before plea deals or indictments, Plaintiff believes that the DOJ has empaneled a grand jury in the Northern District of California to investigate anticompetitive conduct by capacitor manufacturers. The grand jury issued subpoenas to several capacitor manufacturers earlier this year.

30. By reason of the unlawful activities hereinafter alleged, defendants substantially affected commerce throughout the United States, causing injury to Plaintiff and the Class.

Defendants, directly and through their agents, engaged in activities affecting all states, to fix, raise, maintain and/or stabilize prices, and allocate market shares for aluminum and/or tantalum electrolytic capacitors, which conspiracies violated the Sherman Act and California's antitrust and unfair competition laws.

31. Defendants' conspiracy and wrongdoing described herein adversely affected individuals and entities in the United States, including Plaintiff and the Class, who purchased aluminum and/or tantalum electrolytic capacitors from distributors, who purchased them from defendants.

III. PARTIES

A. Plaintiff

32. Plaintiff **Toy-Knowlogy Inc.** is a California company with its principal place of business within this District. Plaintiff purchased aluminum and/or tantalum electrolytic capacitors indirectly from one or more defendants during the Class Period. That is, Plaintiff purchased these capacitors as stand-alone products from distributors, who purchased these capacitors for wholesale as stand-alone products from defendants. Aluminum and tantalum electrolytic capacitors are discrete and identifiable products that pass through the chain of distribution in substantially the same form from defendants to distributors to retailers, such as Plaintiff. The capacitor is traceable to an entity owned or controlled by a defendant conspirator because it bears the defendant's markings (*e.g.*, name, logo, and capacitor series). Plaintiff has standing to bring the claims alleged herein because Plaintiff suffered injury as a result of the unlawful conduct alleged herein.

B. Defendants

33. This section identifies each of the defendants and describes the relationship of ownership or control between each defendant conspirator and its divisions, subsidiaries, or affiliates that sold capacitors to Plaintiff and members of the Class. The relationships between the conspirators and sellers are characterized by the ability to exercise restraint or direction; to dominate, regulate, or command; and/or to have the power or authority to guide or manage.

1 **1. Elna Defendants**

2 34. Defendant Elna Co., Ltd. is a Japanese corporation with its principal place of
3 business in Yokohama, Japan. Elna Co., Ltd. is one of the world's leading manufacturers of
4 capacitors. Elna Co.—directly and/or through its subsidiaries, which it wholly owned and/or
5 controlled—manufactured, marketed, and/or sold aluminum electrolytic capacitors that were
6 purchased throughout the United States, including in this District, during the Class Period. Elna
7 Co. Ltd. announced that it was raided by the JFTC in June 2014 and that it is also under
8 investigation by the DOJ and China's antitrust authority for its involvement in the capacitor cartel.

9 35. Defendant Elna America Inc. is a California corporation with its principal place of
10 business in Gardena, California. It is a subsidiary of and wholly owned and/or controlled by its
11 Japanese parent, Elna Co. Elna America Inc. manufactured, marketed, and/or sold aluminum
12 electrolytic capacitors that were purchased throughout the United States, including in this District,
13 during the Class Period.

14 36. Defendants Elna Co. and Elna America Inc. are herein referred to as "Elna."

15 **2. Hitachi Defendants**

16 37. Defendant Hitachi Chemical Co., Ltd. is a Japanese corporation with its principal
17 place of business in Tokyo, Japan. Hitachi Chemical Co. is one of the world's leading
18 manufacturers of capacitors. Hitachi Chemical Co., Ltd.—directly and/or through its subsidiaries,
19 which it wholly owned and/or controlled—manufactured, marketed, and/or sold aluminum and
20 tantalum electrolytic capacitors that were purchased throughout the United States, including in this
21 District, during the Class Period. Hitachi Chemical Co., Ltd. was raided by the JFTC in June 2014
22 regarding Hitachi Chemical Co., Ltd.'s participation in the capacitor cartel.

23 38. Defendant Hitachi Chemical Co. America, Ltd. is a New York corporation with its
24 principal place of business in Cupertino, California. It is a subsidiary of and wholly owned and/or
25 controlled by its Japanese parent, Hitachi Chemical Co., Ltd. Hitachi Chemical Co. America, Ltd.
26 manufactured, marketed, and/or sold aluminum and tantalum electrolytic capacitors that were
27 purchased throughout the United States, including in this District, during the Class Period.

39. Defendants Hitachi Chemical Co., Ltd. and Hitachi Chemical Co. America, Ltd. are herein referred to as “Hitachi.”

3. KEMET Defendants

40. Defendant KEMET Corporation is a Delaware corporation with its principal place of business in Simpsonville, South Carolina. KEMET Corporation is one of the world’s leading manufacturers of capacitors. KEMET Corporation—directly and/or through its subsidiaries, which it wholly owned and/or controlled—manufactured, marketed, and/or sold aluminum and tantalum electrolytic capacitors that were purchased throughout the United States, including in this District, during the Class Period.

41. Defendant KEMET Electronics Corporation is a Delaware corporation with its principal place of business in Simpsonville, South Carolina. It is a subsidiary of and wholly owned and/or controlled by KEMET Corporation. KEMET Electronics Corporation manufactured, marketed, and/or sold aluminum and tantalum electrolytic capacitors that were purchased throughout the United States, including in this District, during the Class Period.

42. On March 12, 2012, KEMET Corporation and NEC TOKIN Corporation announced that they had formed a capital and business alliance to strengthen their financial base, increase sales, and reduce costs in areas such as procurement and production. Due to the alliance, KEMET Corporation acquired 34 of NEC TOKIN Corporation’s outstanding shares and 51 percent of its outstanding voting rights. Non-party NEC Corporation holds the remaining shares and voting rights. KEMET Corporation has the option to subscribe to future capital increases of NEC TOKIN or acquire its shares held by NEC Corporation.

43. Defendants KEMET Corporation and KEMET Electronics Corporation are herein referred to as “KEMET.” The KEMET Corporation-NEC TOKIN Corporation alliance shall be referred to herein as “KEMET-NEC TOKIN.”

4. Defendant Matsuo Electric Co., Ltd.

44. Defendant Matsuo Electric Co., Ltd. is a Japanese corporation with its principal place of business in Osaka, Japan. Matsuo Electric Co., Ltd. is one of the world’s leading

1 manufacturers of capacitors. Matsuo Electric Co., Ltd.—directly and/or through its subsidiaries,
 2 which it wholly owned and/or controlled—manufactured, marketed, and/or sold aluminum and
 3 tantalum electrolytic capacitors that were purchased throughout the United States, including in this
 4 District, during the Class Period.

5 45. Defendant Matsuo Electric Co., Ltd. is referred to as “Matsuo.”

6 **5. NEC-TOKIN Defendants**

7 46. Defendant NEC TOKIN Corporation is a Japanese corporation with its principal
 8 place of business in Miyagi, Japan. NEC TOKIN Corporation is one of the world’s leading
 9 manufacturers of capacitors. NEC TOKIN Corporation—directly and/or through its subsidiaries,
 10 which it wholly owned and/or controlled—manufactured, marketed, and/or sold tantalum
 11 electrolytic capacitors that were purchased throughout the United States, including in this District,
 12 during the Class Period. NEC TOKIN Corporation is under investigation by antitrust regulators in
 13 China, Europe, South Korea and the United States. It was raided by China’s antitrust regulator, the
 14 NDRC, in or around March 2014, in connection with that agency’s investigation of the capacitor
 15 cartel.

16 47. Defendant NEC TOKIN America Inc. is a California corporation with its principal
 17 place of business in San Jose, California. It is a subsidiary of and wholly owned and/or controlled
 18 by its Japanese parent, NEC TOKIN Corporation. NEC TOKIN America Inc. manufactured,
 19 marketed, and/or sold tantalum electrolytic capacitors that were purchased throughout the United
 20 States, including in this District, during the Class Period.

21 48. Defendants NEC TOKIN Corporation and NEC TOKIN America Inc. are
 22 collectively referred to as “NEC TOKIN.”

23 **6. Nichicon Defendants**

24 49. Defendant Nichicon Corporation is a Japanese corporation with its principal place of
 25 business in Kyoto, Japan. Nichicon Corporation is one of the world’s leading manufacturers of
 26 capacitors. Nichicon Corporation—directly and/or through its subsidiaries, which it wholly owned
 27 and/or controlled—manufactured, marketed, and/or sold aluminum and tantalum electrolytic

capacitors that were purchased throughout the United States, including in this District, during the Class Period. Nichicon Corporation is under investigation by the DOJ and was raided by the JFTC in connection with that agency's investigation of the capacitor cartel.

50. Defendant Nichicon America Corporation is an Illinois corporation with its principal place of business in Schaumburg, Illinois. It is a subsidiary of and wholly owned and/or controlled by its Japanese parent, Nichicon Corporation. Nichicon America Corporation manufactured, marketed, and/or sold aluminum and tantalum electrolytic capacitors that were purchased throughout the United States, including in this District, during the Class Period.

51. On February 6, 2013, Nichicon Corporation completed the sale of its solid tantalum electrolytic capacitors business to AVX Corporation³. Due to the sale, Nichicon ceased to manufacture, market, and/or sell tantalum electrolytic capacitors after this date.

52. Defendants Nichicon Corporation and Nichicon America Corporation are collectively referred to as "Nichicon."

7. Nippon Chemi-Con Defendants

53. Defendant Nippon Chemi-Con Corporation is a Japanese corporation with its principal place of business in Tokyo, Japan. Nippon Chemi-Con Corporation is one of the world's leading manufacturers of capacitors. Nippon Chemi-Con Corporation—directly and/or through its subsidiaries, which it wholly owned and/or controlled—manufactured, marketed, and/or sold aluminum electrolytic capacitors that were purchased throughout the United States, including in this District, during the Class Period. Nippon Chemi-Con Corporation was raided by the JFTC in connection with that agency's investigation of the capacitor cartel.

54. Defendant United Chemi-Con, Inc. is an Illinois corporation with its principal place of business in Rosemont, Illinois. It is a subsidiary of and wholly owned and/or controlled by its Japanese parent, Nippon Chemi-Con Corporation. United Chemi-Con, Inc. manufactured,

³ Plaintiffs have not named it as a defendant in this Complaint but reserve the right to do so upon further investigation.

1 marketed, and/or sold aluminum electrolytic capacitors that were purchased throughout the United
 2 States, including in this District, during the Class Period.

3 55. Defendants Nippon Chemi-Con Corporation and United Chemi-Con, Inc. are
 4 collectively referred to as “Nippon Chemi-Con.”

5 **8. Panasonic Defendants**

6 56. Defendant Panasonic Corporation is a Japanese corporation with its principal place
 7 of business in Osaka, Japan. Panasonic Corporation is one of the world’s leading manufacturers of
 8 capacitors. Panasonic Corporation—directly and/or through its subsidiaries, which it wholly owned
 9 and/or controlled—manufactured, marketed, and/or sold aluminum electrolytic capacitors that were
 10 purchased throughout the United States, including in this District, during the Class Period.
 11 Panasonic Corporation is under investigation in South Korea, China, Europe and the United States
 12 and was raided by the JFTC in connection with that agency’s investigation of the capacitor cartel.
 13 Panasonic Corporation has applied to United States and Chinese antitrust regulators for leniency,
 14 meaning the manufacturer will receive amnesty from criminal prosecution in return for full
 15 cooperation with government antitrust authorities.

16 57. Defendant Panasonic Corporation of North America is a Delaware corporation with
 17 its principal place of business in Newark, New Jersey. It is a subsidiary of and wholly owned
 18 and/or controlled by its Japanese parent, Panasonic Corporation. Panasonic Corporation of North
 19 America manufactured, marketed, and/or sold aluminum electrolytic capacitors that were purchased
 20 throughout the United States, including in this District, during the Class Period.

21 58. Defendant SANYO Electric Co., Ltd. is a Japanese corporation with its principal
 22 place of business in Osaka, Japan. SANYO Electric Co., Ltd.—directly and/or through its
 23 subsidiaries, which it wholly owned and/or controlled—manufactured, marketed, and/or sold
 24 aluminum electrolytic capacitors that were purchased throughout the United States, including in this
 25 District, during the Class Period.

26 59. Defendant SANYO Electronic Device (U.S.A.) Corporation is a Delaware
 27 corporation with its principal place of business in San Diego, California. It is a subsidiary of and
 28

1 wholly owned and/or controlled by its Japanese parent, SANYO Electric Co., Ltd. SANYO
2 Electronic Device (U.S.A.) Corporation manufactured, marketed, and/or sold aluminum electrolytic
3 capacitors that were purchased throughout the United States, including in this District, during the
4 Class Period.

5 60. Panasonic Corporation acquired a majority of SANYO Electric Co., Ltd. in
6 December 2009 and the rest of SANYO Electric Co., Ltd. in July 2010.

7 61. Defendants SANYO Electric Co., Ltd. and SANYO Electronic Device (U.S.A.)
8 Corporation are collectively referred to as “SANYO” for allegations pertaining to them prior to
9 December 2009. Otherwise, Defendants Panasonic Corporation, Panasonic Corporation of North
10 America, SANYO Electric Co., Ltd. and SANYO Electronic Device (U.S.A.) Corporation are
11 collectively referred to as “Panasonic.”

12 **9. Rubycon Defendants**

13 62. Defendant Rubycon Corporation is a Japanese corporation with its principal place of
14 business in Nagano, Japan. Rubycon Corporation is one of the world’s leading manufacturers of
15 capacitors. Rubycon Corporation—directly and/or through its subsidiaries, which it wholly owned
16 and/or controlled—manufactured, marketed, and/or sold aluminum electrolytic capacitors that were
17 purchased throughout the United States, including in this District, during the Class Period.
18 Rubycon Corporation was raided by the JFTC in connection with that agency’s investigation of the
19 capacitor cartel.

20 63. Defendant Rubycon America Inc. is an Illinois corporation with its principal place of
21 business in Gurnee, Illinois. It is a subsidiary of and wholly owned and/or controlled by its
22 Japanese parent, Rubycon Corporation. Rubycon America Inc. manufactured, marketed, and/or
23 sold aluminum electrolytic capacitors that were purchased throughout the United States, including
24 in this District, during the Class Period.

25 64. Defendants Rubycon Corporation and Rubycon America Inc. are collectively
26 referred to as “Rubycon.”

10. Defendant Toshin Kogyo Co., Ltd.

65. Defendant Toshin Kogyo Co., Ltd. is a Japanese corporation with its principal place of business in Tokyo, Japan. Toshin Kogyo Co., Ltd. is one of the world's leading manufacturers of capacitors. Toshin Kogyo Co., Ltd.—directly and/or through its subsidiaries, which it wholly owned and/or controlled—manufactured, marketed, and/or sold aluminum electrolytic capacitors that were purchased throughout the United States, including in this District, during the Class Period. Toshin Kogyo Co., Ltd. was raided by the JFTC in connection with that agency's investigation of the capacitor cartel.

IV. AGENTS AND CO-CONSPIRATORS

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

67. 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 the 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. Plaintiff reserves the right to name some or all of these persons and entities as defendants at a later date.

68. 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.

V. FACTUAL ALLEGATIONS

A. Capacitor Background

69. Capacitors are similar to batteries in that both store electrical energy. A battery has two terminals, one that produces electrons through chemical reactions and another that absorbs

1 electrons. A capacitor is simpler than a battery in that it only stores electrons and does not produce
2 them.

3 70. A capacitor is analogous to a water tower hooked to a pipe. A capacitor stores
4 electrons much like a water tower “stores” water pressure. When the water system pumps more
5 water than a town needs, the excess is stored in the water tower. Then, at times of high demand, the
6 excess water flows out of the tower to keep the pressure up. A capacitor stores electrons in the
7 same way and can then release them later.⁴

8 71. Capacitors occur naturally. Lightning is a natural capacitor: The cloud and the
9 ground are plates, and the lightning is the charge releasing between the two plates (Figure 4).
10 Capacitors can also occur inadvertently: Two parallel wires on a printed circuit board form a
11 capacitor and can have unintended effects on the circuit’s behavior.

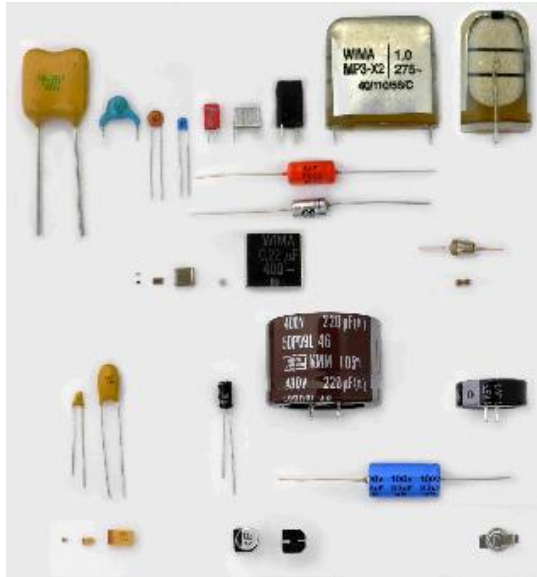
12 **Figure 4: Natural Capacitor**



19 Source: http://www.cabrillo.edu/~jmccullough/Applets/Other_Applet_Images/Electricity_Magnetism/Lightning.JPG

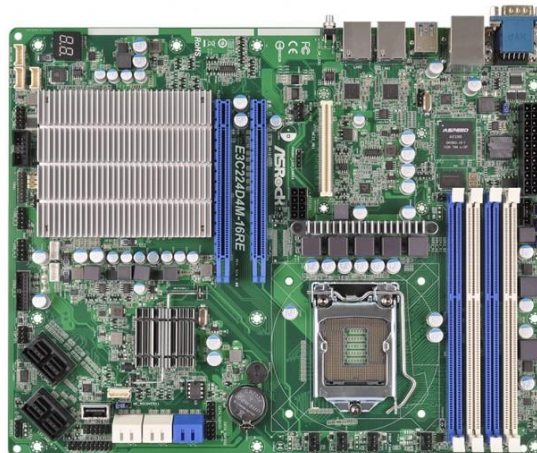
20 72. Manufactured capacitors are fundamental electronic components that influence
21 electronic circuits. They have applications in both analog and digital circuits, and have voltages
22 from less than one volt to several thousand volts. Figure 5 depicts a variety of capacitors.

23
24
25
26
27 ⁴ Marshall Brain and Charles W. Bryant. *How Capacitors Work*. HOWSTUFFWORKS, 2007,
<http://electronics.howstuffworks.com/capacitor1.htm>.

Figure 5: Manufactured Capacitors

Source: http://en.wikipedia.org/wiki/Types_of_capacitor#mediaviewer/File:Verschiedene_Kondensatoren_2.JPG

73. Capacitors are found in nearly every electronic device. As noted before, Forbes reported: “Capacitors are *ubiquitous electronic components* found in a vast array of electronic devices, from consumer electronics to heavy machinery. *Manufacturers produce trillions of them a year*” (emphasis added). One technical paper by a capacitor manufacturer stated, “[T]hese often tiny devices can have a significant effect on product performance, end-of-line production yield, reliability and lifetime in the field, and in some cases, safety.” Figure 6 shows a motherboard mounted with hundreds of capacitors.

Figure 6: Capacitor Motherboard

Source: http://www.legitreviews.com/asrock-releases-first-12g-sas-3-motherboard_132574

74. Capacitors are a mainstay in our fast-paced, technology-driven world and have had exponentially increasing applications over the last several decades. They are extensively used in nearly all electronic products. For example, the capacitive touch screen—once cost-prohibitive and rare—is in game consoles, personal computers, tablet computers, and smartphones today. Apple Inc.’s iPad contains about 700 capacitors and iPhone, 500 capacitors. The iPhone market alone has spurred the production of billions, if not trillions, of capacitors.

B. Capacitor Structure

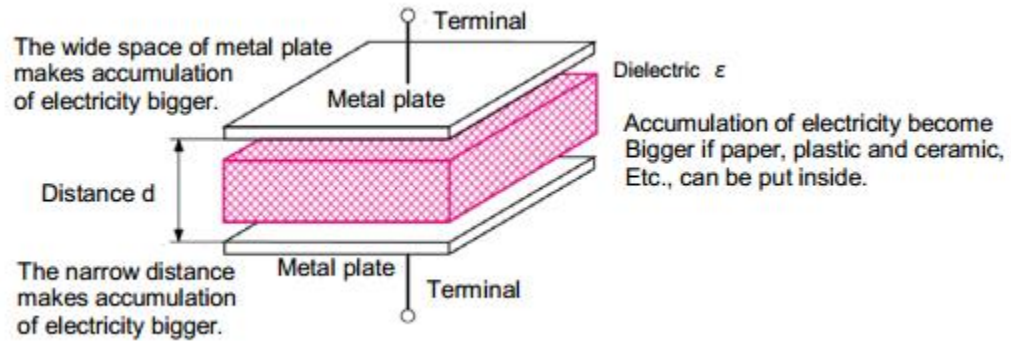
75. A capacitor is a passive electronic component that stores energy as an electric field. A basic capacitor consists of two conductors (plates) separated by the dielectric (insulator). When a voltage exists between the two conductors, an electric field is present in the dielectric, which stores energy.

76. While capacitors are just one type of electronic component, there are many types of capacitors. The dielectric material primarily differentiates the variety of capacitor. A capacitor’s **capacitance** (storage potential) is measured in farads⁵ and is directly proportional to the **surface area** of the plates, inversely proportional to the **distance** between the plates, and **dependent** on the **dielectric material**. In other words, larger plates mean more storage potential; a shorter distance between plates means more storage potential; and a larger dielectric constant⁶ of the insulator material means more storage potential. Figure 7 illustrates the structure of a capacitor.

⁵ The unit of electrical capacitance, equal to the capacitance of a capacitor in which one coulomb of charge causes a potential difference of one volt.

⁶ A quantity measuring the ability of a substance to store electrical energy in an electric field.

Figure 7: Capacitor Structure



Source: http://industrial.panasonic.com/jp/i/29880/TAL_E/TAL_E.pdf

77. The dielectric dictates the form and function of a capacitor. The dielectric can be made of any non-conductive substance. Some capacitors are better for high-frequency uses while others are better for high-voltage applications depending on the material and size of the dielectric. In terms of material, for example, an air dielectric is commonly used in radio tuning circuits and a ceramic dielectric in high-frequency applications, such as antennas, x-rays, and magnetic resonance imaging. And regarding size, for example, small capacitors can be used in clocks and large capacitors, in power supply.

78. At the most basic level, capacitors must be able to: (1) store electric energy, (2) separate different DC voltages from each other, and (3) conduct AC current. An ideal capacitor has the desired capacitance and is the perfect insulator.

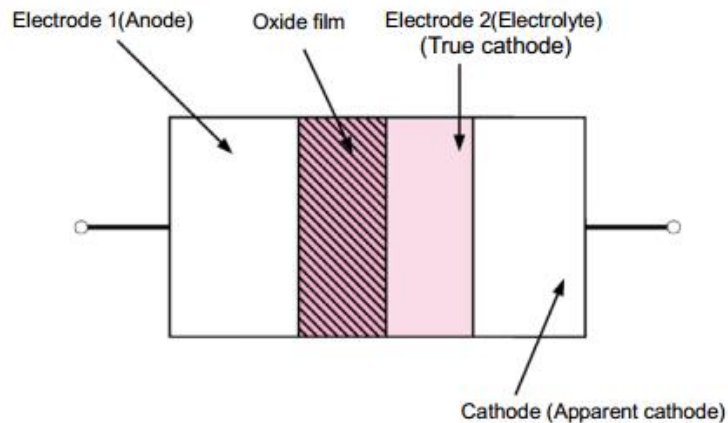
C. Capacitor Technologies

79. Capacitors can be divided into two basic groups: electrolytic capacitors and electrostatic capacitors. Electrolytic capacitors are the subject of this Complaint.

80. **Electrolytic capacitors** are asymmetrical, polarized constructions. The dielectric, or insulator, is made of materials like aluminum, tantalum, niobium, or zircon while the conductors are made of a variety of metals. Aluminum, tantalum, or other metal foils or powders create the positive connection (anode). Electrolytic capacitors use an electrolyte that creates a negative connection (cathode). The dielectric layer is created by forming a thin oxide film on the metal anode and may be maintained by the electrolyte. For example, in aluminum electrolytic capacitors,

the anode is aluminum, the dielectric is the aluminum oxide, and the liquid electrolyte is the cathode. Figure 8 depicts the layers of an electrolytic capacitor. The type of electrolytic capacitor depends on the material of the oxide film that forms the dielectric. Because electrolytic capacitors are polarized, they must be carefully designed and correctly inserted into circuits. Electrolytic capacitors are generally used for relatively large capacitance values in a reasonable size.

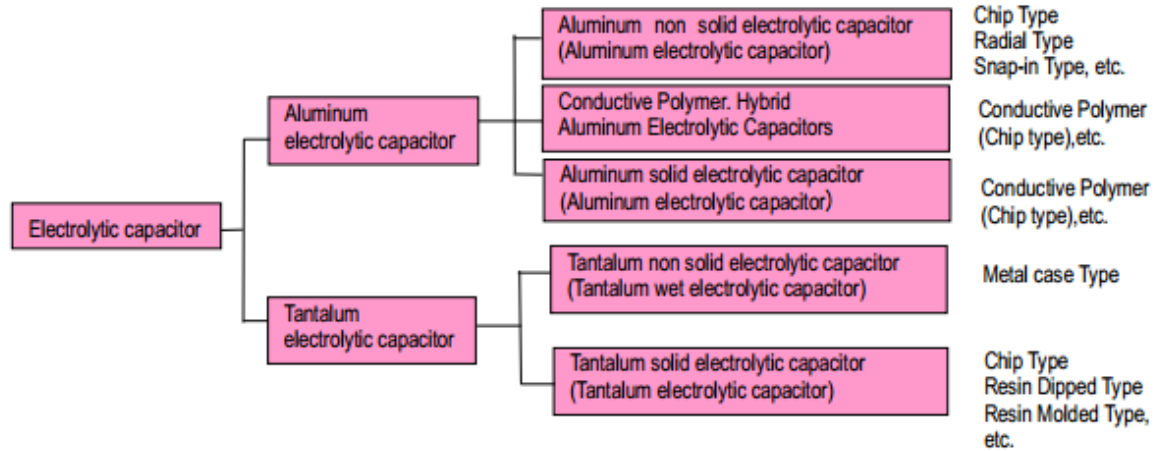
Figure 8: Electrolytic Capacitor Structure



Source: http://industrial.panasonic.com/jp/i/29880/TAL_E/TAL_E.pdf

81. **Electrostatic capacitors** are symmetrical, non-polarized constructions. The dielectric is made of materials like plastic film and ceramic while the conductors are made of a variety of metals. Because electrostatic capacitors are not polarized, they can generally be inserted into a circuit without regard to which points the terminals are connected. Electrostatic capacitors are generally used for small or precision capacitance values.

82. The electrolytic capacitor market is comprised of different types of capacitors. Electrolytic capacitors may be broken down per Figure 9. The allegations in this Complaint only relate to aluminum and tantalum electrolytic capacitors (Figure 10). Aluminum and tantalum are the only two metals in electrolytic capacitors today.

Figure 9: Electrolytic Capacitors

Source: <http://industrial.panasonic.com/www-data/pdf/ABA0000/ABA0000TE2.pdf>

Figure 10: Relevant Products**Aluminum Electrolytic Capacitor****Tantalum Electrolytic Capacitor**

83. Defendants manufactured, marketed, and/or sold aluminum and/or tantalum electrolytic capacitors in and into the United States during the Class Period. Defendants and other co-conspirators (as yet unknown) agreed, combined and conspired to fix, raise, maintain and/or stabilize prices, and to allocate market shares for aluminum and/or tantalum electrolytic capacitors.

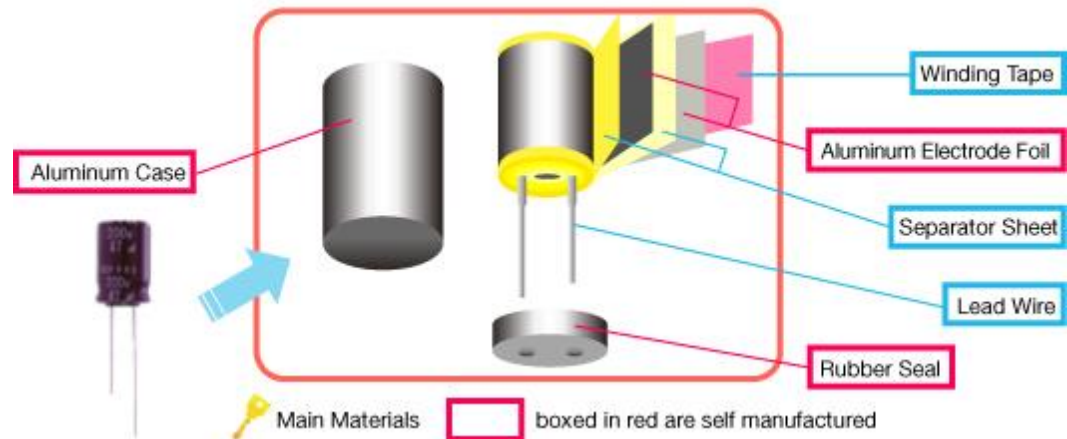
1. Aluminum Electrolytic Capacitors

84. Aluminum electrolytic capacitors are made of two aluminum foils and a paper spacer soaked in electrolyte. One of the two aluminum foils is covered with an oxide layer, and that foil acts as the anode, while the uncoated one acts as a cathode. The anode, electrolyte-soaked paper and cathode are stacked. The stack is rolled, placed into a cylindrical enclosure and connected to the circuit using pins (see Figure 11).

85. Aluminum capacitors are highly reliable and have a long life. They also have characteristics like high capacitance, low electrical impedance, low profile, and low cost. They are

used in home appliances, information communication devices, and industrial devices. TVs and computers are critical end-use markets for aluminum capacitors because flat panel TVs and desktop and notebook computers are aluminum capacitor-intensive.

Figure 11: Basic Structure of Aluminum Electrolytic Capacitor



Source: http://www.chemi-con.co.jp/e/ir/per_condenser.html

86. Aluminum electrolytic capacitors are an essential electronic component of our lives—each home uses about 1,000 of them. Aluminum electrolytic capacitors are incorporated into products of various sizes because they can store large amounts of electricity. Aluminum capacitors are typically used in large electronic devices, such as televisions, computers, consumer audio and video devices, video game consoles, and navigation systems. Figure 12 shows the many applications of aluminum electrolytic capacitors as well as the amount of said capacitors in each product. The market for aluminum capacitors has been negatively impacted by the rise of the tablet computer and corresponding slowdown in sales of desktop and notebook computers.

Figure 12: Applications of Aluminum Electrolytic Capacitors

					
Flat-Screen TV	Personal Computer	Home Video Game Machine	Inverter Driven Air Conditioner	Inverter Driven Washing Machine	PV Power Conditioner
10 - 60 pcs	10 - 60 pcs	10 - 30 pcs	20 - 30 pcs	20 - 30 pcs	30 - 50 pcs

Source: http://www.chemi-con.co.jp/e/ir/per_condenser.html

87. Other uses include lighting applications (*e.g.*, crane lighting, lighted buoys, barge lights, highway maintenance, lighting for construction equipment, emergency airport lighting, bridge lighting) and renewable energy generating systems (*e.g.*, geothermal systems, solar energy systems, windmills, wave generation systems).

88. Aluminum electrolytic capacitors are a specialty component compared to ceramic capacitors—a trillion plus of which manufactured a year—but are essential to electronic products that require a higher capacitance than ceramic capacitors can offer. Aluminum capacitors provide a combination of high capacitance and high voltage without the constraints of volumetric inefficiency.

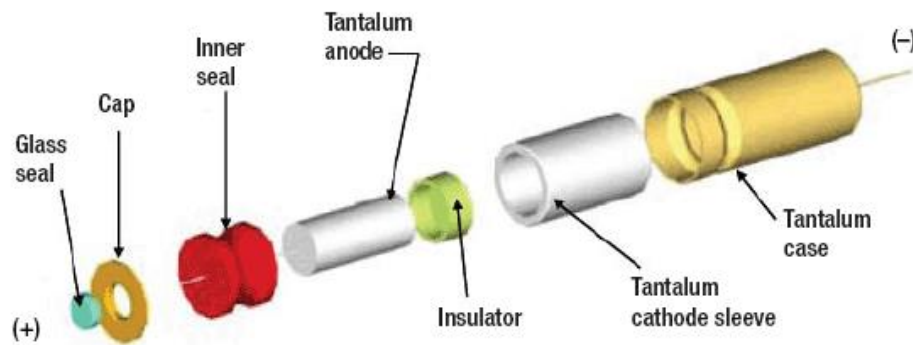
2. Tantalum Electrolytic Capacitors

89. Tantalum is a rare, hard, blue-gray metal and a “conflict mineral” per the United Nations and the Dodd-Frank Act. The tantalum market is therefore subject to frequent supply and price fluctuations. Key hard and soft rock mining operations for tantalum have either closed or idled in Australia, Canada, Ethiopia, and Mozambique, leaving artisan sources in South America and Central Africa to meet the demand from recycled metal or existing stockpiles. Despite the challenging supply chain, high production costs, and being considerably more expensive than aluminum, the demand for tantalum capacitors remains because it offers the highest capacitance in the smallest form, relative longevity, and known reliability. Applications requiring high reliability include engine management, avionics, and safety and military equipment.

90. Tantalum electrolytic capacitors are made of tantalum metal which acts as an anode, covered by a layer of oxide which acts as the dielectric, surrounded by a conductive cathode (*see*

Figure 13). The use of tantalum allows for a very thin dielectric layer. A thin dielectric layer results in a higher capacitance value per volume, superior frequency characteristics compared to many other types of capacitors, and excellent stability over time. Figure 13 is an exploded view of a basic tantalum electrolytic capacitor. Technological advances allow tantalum capacitors to be used in a wide variety of circuits, often found in laptops, cell phones, and others, most often in the form of surface mounted devices. Surface mount tantalum capacitors claim much less space on the printed circuit board and allow for greater packing densities.

Figure 13: Basic Structure of Tantalum Electrolytic Capacitor



Source: <http://powerelectronics.com/sitefiles/powerelectronics.com/files/archive/powerelectronics.com/images/tantalum-capacitors-dscc-93026-Figure01.jpg>

91. Applications using tantalum electrolytic capacitors take advantage of their low leakage current, high capacity and long term stability, and reliability. For example, they are used in sample and hold circuits which rely on low leakage current to achieve long hold duration. They are also commonly used for power supply filtering on computer motherboards and cellphones due to their small size and long term stability, most often in surface mount form. Tantalum electrolytic capacitors are also available in military specifications versions, which offer tighter tolerances and a wider operating temperature range. Medical electronics also rely on tantalum electrolytic capacitors because of their high stability. Audio amplifiers sometimes use tantalum capacitors where stability is a critical factor. Tantalum capacitors are typically used in small electronic devices in which small size and high capacitance are required, such as smartphones, small personal computers and tablets and devices used by the defense, medicine, and oil and gas industries. Due to tantalum

capacitors' small size and high capacitance, they are indispensable in the growing area of portable electronics. Figure 14 depicts the various shapes and applications of tantalum capacitors.

Figure 14: Applications of Tantalum Electrolytic Capacitors



Source: <http://www.kemet.com/Tantalum%20Capacitors>

92. It is important to note that although there are different types of capacitors, all types of capacitors have the same basic form and function. The surface area of the conductors, the distance between them, and the dielectric material may give each type of capacitor its characteristics and applications, but every type of capacitor is essentially a device used to store an electric charge, consisting of one or more pairs of conductors separated by an insulator.

93. In 2013, the average price per thousand units was \$38.12 for aluminum electrolytic capacitors and \$106.18 for tantalum electrolytic capacitors. The aluminum electrolytic capacitors market has annual global sales of over \$4 billion, while the tantalum electrolytic capacitors market has annual global sales of over \$1.5 billion.

94. While the inception of multi-layer ceramic capacitors ("MLCC") have begun replacing more expensive aluminum and tantalum electrolytic capacitors in some applications, capacitor manufacturers cannot simply transition from one type of capacitor to another because circuit board designs require specific types of capacitors. As products and their circuit boards undergo redesign, however, MLCC will continue to replace aluminum and tantalum electrolytic capacitors.

95. Between 2003 and 2013, almost all growth in capacitor sales has been attributable to ceramic capacitors due to the introduction of MLCC. The market share of ceramic capacitors rose

from 85 to 90 percent, while the market shares fell from 10 to eight percent for of aluminum capacitors and two to one percent for tantalum capacitors. Still, capacitor manufacturers could not simply switch from manufacturing aluminum and/or tantalum electrolytic capacitors to manufacturing MLCC due to heavy, sunk financial investments in specialized facilities, complex equipment, and raw materials. As the increasing demand for ceramic capacitors decreased the demand for aluminum and tantalum electrolytic capacitors, defendants conspired to fix the prices of the latter capacitors to maintain profits.

D. Capacitors Are Traceable Through the Chain of Distribution

96. Aluminum and tantalum electrolytic capacitors are component parts installed in electronic products as part of the electronic manufacturing process. They are also installed in electronic products to replace damaged, defective, or worn out capacitors. For new electronic products, tier one Original Equipment Manufacturers (“OEMs”)—the world’s largest electronic manufacturers, like Apple Inc., HP, and IBM—directly purchase aluminum and tantalum electrolytic capacitors from defendants due to their massive order volume. Plaintiff and other OEMs—the rest of the world’s electronic manufacturers, like Silicon Valley startups—must indirectly purchase capacitors from a small number of distributors.

97. When purchasing capacitors for their electronic products, tier one OEMs either choose existing capacitors from defendants’ catalogs or issue requests for quotations (“RFQs”) for new capacitors to defendants. Defendants submit quotations or bids to OEMs in response to RFQs, and OEMs typically award the business to the selected defendant. Plaintiff and other OEMs must purchase existing capacitors from distributors’ catalogs.

98. Plaintiff purchased aluminum and tantalum electrolytic capacitors as a stand-alone product from distributors. When a capacitor is sold as a stand-alone product, the capacitor may be directly traceable to the specific manufacturer through the name, logo, and/or capacitor series printed on it that permits tracing. Some manufacturers print their name or logo on their capacitors, while others will only print the capacitor series. A few may not print any identifiable marking. Although consumer end-users who purchase capacitor products not for re-sale may not always be

1 able to trace capacitors to their manufacturers, indirect purchasers who purchase aluminum and
2 tantalum capacitors from capacitor distributors can trace capacitors to their manufacturers.

3 99. Indirect purchasers of capacitors from capacitor distributors also do not pass the
4 overcharge due to the capacitor cartel down the distribution chain. This is because capacitor
5 products are not priced based on the price of individual capacitors. Plaintiff purchased aluminum
6 and tantalum electrolytic capacitors from distributors' catalog, and capacitors purchased by Plaintiff
7 are traceable through purchase orders and receipts.

8 **E. The Capacitor Industry**

9 **1. Aluminum Electrolytic Capacitors**

10 100. Aluminum electrolytic capacitors account for 6.5 percent of the global capacitor
11 market in terms of volume but 22 percent of it in terms of dollar value. In North America,
12 aluminum electrolytic capacitors are 20 percent of the \$1.5 billion annual market for capacitors, or
13 \$300 million.

14 101. Currently, the largest end-use market for aluminum electrolytic capacitors is
15 consumer electronics. Demand from other end-use markets, such as medical instruments, defense,
16 space and mining instruments, and electronic applications, are leading growth in the aluminum
17 electrolytic capacitor market. For example, the increasing demand for inverters, which use
18 aluminum electrolytic capacitors, in the energy and environmental industries will spur growth in
19 this market.

20 102. Although the aluminum capacitor market hit a low point in FY 2013, market analysts
21 believe it will rebound because a number and variety of markets will drive the demand for
22 aluminum capacitors, including commercial aircraft, communications infrastructure, electric rail,
23 medical devices, and oil and gas industries. Market analysts also predict that the growth in global
24 renewable energy markets—specifically, inverter applications in wind and solar energy will further
25 increase the demand for aluminum capacitors.

2. Tantalum Electrolytic Capacitors

103. Multiple industries have continued to use tantalum for the past few decades due to its reliability despite the emergence of metal alternatives. Consumer electronics drove 50 to 70 percent of the demand for tantalum over the past 20 years. Tantalum capacitors are in cell phones, portable electronics equipment, and communications infrastructure.

104. In recent years, though, three tantalum-alternative capacitors have emerged as substitutes for tantalum capacitors: (1) multi-layered ceramic chip capacitors, (2) aluminum electrolytic capacitors, and (3) the niobium oxide molded chip capacitors. As such, the supply and demand for tantalum capacitors are expected to fall.

F. The Characteristics of the Electrolytic Capacitor Market Render Collusion More Plausible.

105. The characteristics of the electrolytic capacitor industry in the United States are conducive to price-fixing and have rendered collusion plausible. Industry characteristics are critically important to determining the likelihood of collusion in that industry. Collusion is more plausible in industries where there are: (1) high barriers to entry; (2) inelasticity of demand; (3) high concentration; (4) homogenous products; and (5) opportunities to collude.

106. The characteristics of the electrolytic capacitor industry in the United States are conducive to price-fixing and have rendered collusion plausible. Industry characteristics are critically important to determining the likelihood of collusion in that industry. Collusion is more plausible in industries where: (1) high barriers to entry exist; (2) demand is inelastic; (3) the market is highly concentrated; (4) the products are homogenous; (5) there are ample opportunities to conspire; (6) capacitor purchasers lack buying power; (7) demand is falling; and (8) there is a history of collusive behavior.

1. The Electrolytic Capacitor Industry Has High Barriers to Entry.

107. The electrolytic capacitor industry has high barriers to entry that facilitate the formation and maintenance of a cartel. Collusion between manufacturers that effectively increases product prices above competitive levels would attract new entrants seeking to benefit from supra-

1 competitive pricing. New entrants are less likely, however, where there are significant barriers to
2 entry.

3 108. There are substantial barriers that preclude, reduce, or make more difficult entry into
4 the electrolytic capacitor market. A potential new entrant faces costly and lengthy start-up costs,
5 including multi-million dollar costs associated with research and development, manufacturing
6 plants and equipment, energy, distribution infrastructure, skilled labor, and long-standing customer
7 relationships with existing manufacturers.

8 109. Electrolytic capacitors are expensive to manufacture. Aluminum electrolytic
9 capacitors are generally more expensive than other capacitors (*e.g.*, ceramic capacitors, which are
10 the most commonly manufactured capacitor in the electronics industry) due to the numerous raw
11 materials required, such as foil and paper, liquid or solid electrolyte, tab, can, leads, stoppers, and
12 end seals. No other dielectric, except perhaps film capacitors, has so many different raw materials
13 and required disciplines to produce the finished capacitor. Tantalum electrolytic capacitors are also
14 considerably more expensive than any other commonly used type of capacitor because tantalum is a
15 rare element of erratic supply with high demand.

16 110. Electrolytic capacitors are protected by patents. New entrants require access to
17 equally efficient production technology as established firms to freely enter the capacitor market.
18 Patents provide a firm the legal right to stop other firms producing a product for a given period of
19 time, so restrict entry into a market. According to the United States Patent and Trademark Office,
20 defendants own hundreds of active patents for various capacitors. For example, Panasonic and
21 NEC TOKIN each have about 100 capacitor patents. One capacitor manufacturer acknowledged
22 that patents present a barrier to entering the capacitors market. Non-defendant Maxwell
23 Technologies attributes its “technology leadership” to its “investments in research and development
24 . . . protected by more than 100 issued U.S. patents and pending patent applications.” Patents place
25 a significant and costly burden on new entrants, which must avoid infringing on patents when
26 entering the electrolytic capacitor market.

111. In addition, given the nature of the materials used in capacitors, any new entrant must comply with various environmental regulations in whatever jurisdiction such plant is built. Compliance with such regulations requires extensive testing and obtaining government approval, all of which can take many years. These issues are particularly problematic for tantalum capacitors, for which its key ingredient, tantalite, is often sourced from conflict zones.

112. For instance, in connection with its recent acquisition of NEC TOKIN, KEMET reported, “In the short period since receiving regulatory approval and closing the transaction, we signed and began the execution of both a Private Label Agreement and a Development and Cross-Licensing Agreement so that we can take advantage of both KEMET and NEC TOKIN’s extraordinary synergies. These agreements expand market and product offerings for both companies and allow us to achieve true scale in operations to manage raw material sourcing, as well as maximize efficiencies and best practices in manufacturing and product development.”

113. KEMET noted in its 2013 Annual Report that “[a] majority of [KEMET’s] tantalum needs are now met through our direct sourcing of conflict free tantalum ore or tantalum scrap reclaim, which is then processed into the intermediate product potassium heptafluorotantalate (commonly known as K-salt) at [KEMET’s] own facility in Mexico or at a subcontractor site in South Africa, before final processing into tantalum powder at Blue Powder.”

114. One industry expert described the barriers to entry in the capacitor market as high, especially for tantalum capacitors. The production technology required for this sub-type, particularly stacking, metallization, firing and creating anodes, is expensive and difficult to master.

115. AVX noted in its 2013 Annual Report that its February 2013 acquisition of Nichicon’s Tantalum Components Division “add[ed] the capabilities of the production facilities,” “g[ave] [AVX] a larger presence in the smartphone product sector,” and “with AVX’s tantalum material purchasing leverage, . . . the integration and profitability of these operations can quickly become beneficial.”

2. The Demand for Electrolytic Capacitors Is Inelastic.

116. “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.

117. 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.

118. Demand for capacitors is highly inelastic because there are no close substitutes for these products. The demand for capacitors will continue to rise due to increasing use of PCs, notebooks, ultrabooks, smartphones, and other consumer and electronic products that meet basic requirements in day-to-day life. No other type of passive electrical component (*e.g.*, inductors and resistors) can serve as a substitute or a functional equivalent to a capacitor in an electric circuit. Accordingly, a purchaser that is either an OEM or an Electronic Manufacturing Services (“EMS”) Provider cannot design quickly an electric circuit to bypass its need for a capacitor with a certain capacitance, dielectric and form factor.

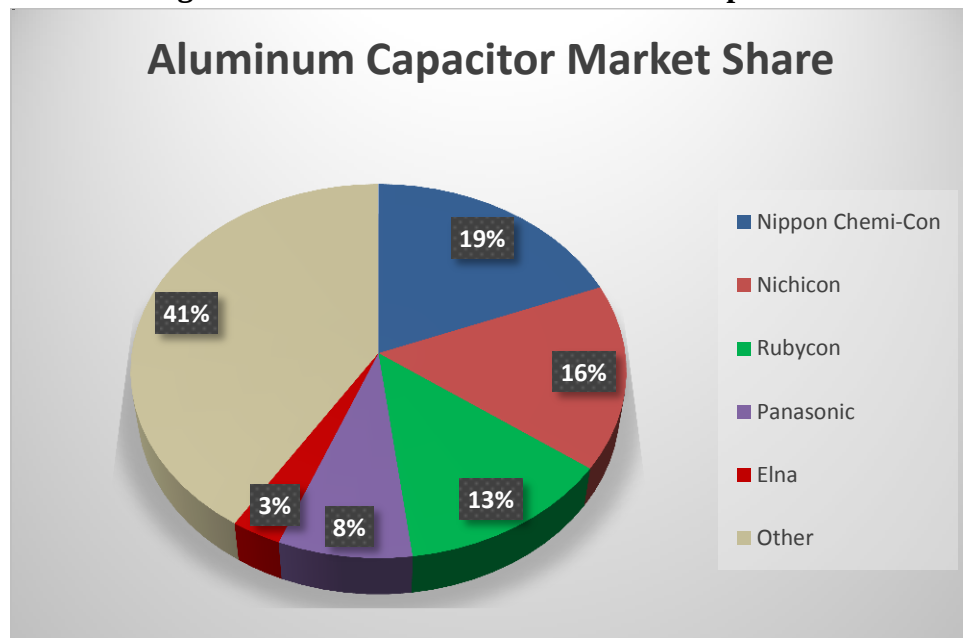
119. Demand for capacitors by sub-type (*i.e.*, aluminum or tantalum) is also not very elastic because electronics are designed specifically for a specific type of capacitor of a specific level of capacitance. For instance, tantalum capacitors are desired for their small size and high capacitance, particularly for use in small electronics, such as mobile phones, smart phones and tablet computers. They cannot be easily replaced by other capacitors that do not have these features. Although ceramic capacitors are cheaper than tantalum capacitors, due to differences in size and capacitance values, they cannot immediately replace circuits that use tantalum or other capacitors. Substituting one sub-type of capacitor for another would require redesigning and

reengineering a product's electrical circuits, a process that cannot be accomplished quickly. Thus, purchasers of capacitors have no choice but to purchase the specific type of capacitor for which their products were designed.

3. The Electrolytic Capacitor Industry Is Highly Concentrated.

120. A highly concentrated market is more susceptible to collusion and other anticompetitive practices. Defendants dominate the aluminum and tantalum electrolytic capacitor market. The five largest aluminum capacitor manufacturers, all of which are Japanese, account for 60 percent of the global market for aluminum capacitors: Nippon Chemi-Con has 19 percent; Nichicon, 16 percent; Rubycon, 13 percent, Panasonic, eight percent, and Elna, three percent. The remainder of the market consists of a handful of manufacturers in China and Taiwan.

Figure 15: Market Share of Aluminum Capacitors

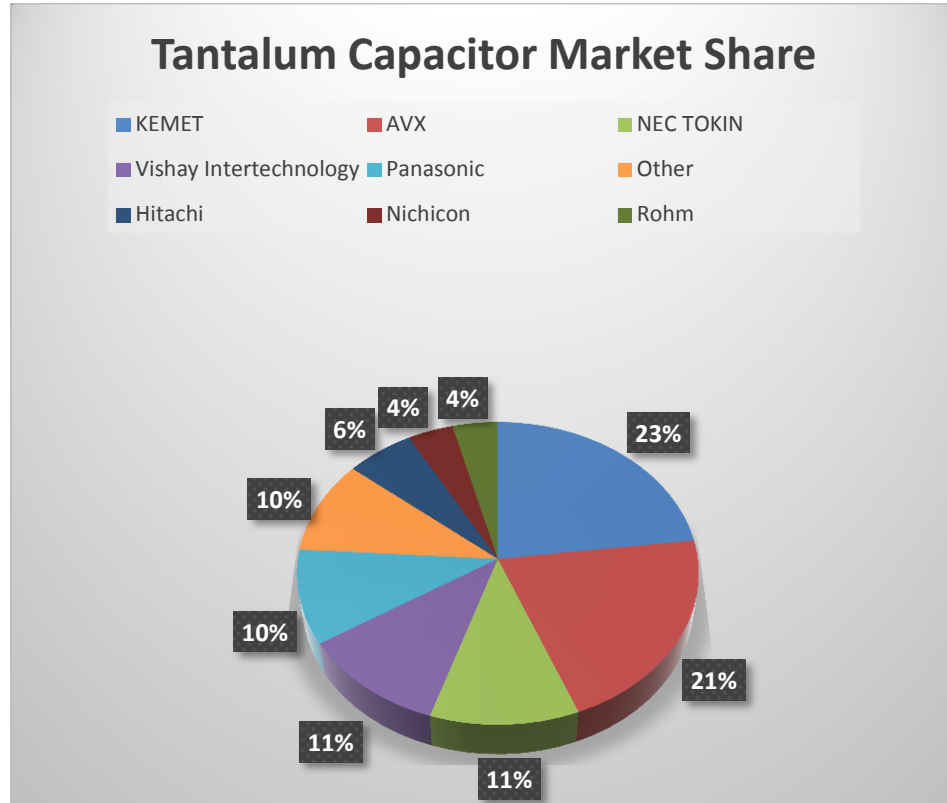


121. The five largest tantalum capacitor manufacturers account for 76 percent of the global market for tantalum capacitors: KEMET has 23 percent; non defendant-AVX Corporation, 21 percent; NEC TOKIN, 11 percent; non-defendant Vishay Intertechnology, Inc.,⁷ 11 percent; and

⁷ Plaintiff has not named Vishay Intertechnology, Inc. as a defendant in this Complaint but reserves the right to do so upon further investigation.

Panasonic, 10 percent. Additionally, Hitachi has six percent; Nichicon, four percent; and Rohm Co., Ltd.,⁸ four percent.

Figure 16: Market Share of Tantalum Capacitors



122. The aluminum and tantalum electrolytic capacitors markets are amongst the two most concentrated submarkets of the overall capacitors market, with a handful of companies dominating the aluminum electrolytic capacitor market and another handful dominating the tantalum electrolytic capacitors market. These companies are also geographically centralized, making collusion easy to accomplish. The nine companies under investigation are believed to have secured illegal and unlawful profits by uniformly passing the increases in material procurement costs through to product prices, citing shrinking demand after the collapse of Lehman Brothers in 2008 as well as the rising costs of aluminum and tantalum after the 2008 economic crisis.

⁸ Plaintiff has not named Rohm Co., Ltd. as a defendant in this Complaint but reserves the right to do so upon further investigation.

123. As the aluminum and tantalum electrolytic capacitor market is dominated by a few companies who control the lion's share of the this market, the continuing agreement, understanding, combination or conspiracy to fix, raise, maintain and/or stabilize prices, and to allocate market shares for aluminum and/or tantalum electrolytic capacitors is effective at setting the prices of aluminum and tantalum electrolytic capacitors at artificially high, supra-competitive prices.

124. A concentrated market is more susceptible to collusion and other anticompetitive practices. The aluminum and tantalum electrolytic capacitor market was concentrated during the Class Period. In fact, throughout the Class Period, defendants collectively maintained extremely high market shares. Further, defendants used acquisitions to further reduce the number of capacitor manufacturers in the world.

4. Electrolytic Capacitors Are Homogenous Products.

125. Electrolytic capacitors are homogenous products or commodities because their characteristics and quality are essentially uniform across different manufacturers. Although different sub-types of capacitors are not interchangeable, within each category, capacitors are designed to be interchangeable. Homogenous products enhance collusion because they enable manufacturers to more easily negotiate agreement on prices and/or quantities and facilitate monitoring.

126. The homogenization of capacitors is aided by industry-standard product specifications. The principal dimensions of product differentiation in capacitors are well known and easily quantifiable. Indeed, manufacturers and distributors maintain very detailed product catalogs and substitution guides that outline rules for swapping out capacitors made by other Defendants based on their common characteristics.

127. In economics, a commodity is a basic good used in commerce that is interchangeable with other commodities of the same type. Commodities are most often used as inputs in the production of other goods or services. Product homogeneity facilitates collusion more than product differentiation. Examples of traditional commodities are sugar, wheat, and rubber. Examples of emerging commodities are wind and solar power and greenhouse gas offsets, for which the market

is developing but not yet mature. As technologies and markets for a good mature, it is more likely to be considered a commodity, at least in its more basic implementations.

128. Electrolytic capacitors straddle the line between traditional commodities and emerging commodities because the capacitor market has not reached maturity yet and is still developing. As capacitors are in almost every electronic device—and as the electronic device market is expanding due to the exponential growth in computing technology per Moore's Law⁹—the established electrolytic capacitor market is still evolving.

129. The United Nations ("UN") Commodity Trade Statistics Database, the largest depository of international trade data, includes electrical capacitors, which encompass electrolytic capacitors, on its Commodity List (Figure 17). Over 170 reporter countries provide the UN Statistics Division with their annual international trade statistics data detailed by commodities and partner countries. The UN and UN member countries therefore consider capacitors as commodities.

Figure 17: Capacitors Are Commodities.

United Nations Commodity Trade Statistics Database | Statistics Division

Home Data Query Data Availability Metadata & Reference Subscription & Support Fast tracks

Home > Metadata & Reference > Commodity List

Input keywords: Search

Commodity List

Total Commodities defined : 12

SITC: ☐ Rev.1 ☐ Rev.2 ☐ Rev.3 ☐ Rev.4 HS: ☐ 92 ☒ 96 ☐ 02 ☐ 07 ☐ 12 ☐ BEC

Code	Description	Data Availability
TOTAL	Name: ALL COMMODITIES Description: ALL COMMODITIES	Data Availability Snapshot
85	Name: Electrical, electronic equipment Description: Electrical mchy equip parts thereof; sound recorder etc	Data Availability Snapshot
8532	Name: Electrical capacitors, fixed, variable or adjustable Description: Electrical capacitors, fixed, variable or adjustable (pre-set).	Data Availability Snapshot

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Source: <http://comtrade.un.org/db/mr/rfCommoditiesList.aspx?px=H1&cc=8532>

130. Further, according to some market analysts, the ubiquity of smartphones and the consistency of features from one brand to another means that the products are becoming commodities. The commoditization of smartphones has increased the commoditization of capacitors.

⁹ Moore's Law states that processor speeds, or overall processing power for computers will double approximately every two years.

131. As electrolytic capacitors are commodities, price is the most obvious differentiation among them for purchasers. In a market of this nature, with trillions of components being manufactured and sold a year at relatively inexpensive individual prices, there is a huge incentive to fix, stabilize, maintain and raise the prices of the components to supra-competitive levels through illegal conspiratorial agreements. By foregoing competition, each manufacturer could still guarantee themselves massive profits in such a high volume market. Furthermore, manipulated prices would be hard to detect due to the overall low price for each individual capacitor. This anticompetitive conspiracy causes substantial harm to consumers, to competition, and to United States commerce.

5. Defendants Had Ample Opportunities to Conspire

132. Defendants attended industry events where they had the opportunity to meet, have improper discussions under the guise of legitimate business contacts, and perform acts necessary for the operation and furtherance of the conspiracy. For example, defendants NEC TOKIN, Nippon Chemi-Con, Panasonic, and their co-conspirators have regularly attended meetings worldwide, including the World Electronics Forum, International Information Industry Conference and World Semiconductor Council.

133. Trade associations and other common forums facilitated defendants' collusion. Trade association meetings provide an excellent cover for meeting and communicating about the pricing of aluminum and tantalum electrolytic capacitors and to conspire to fix, raise, maintain and/or stabilize prices, and to allocate market shares for aluminum and/or tantalum electrolytic capacitors.

134. **Japan Electronics and Information Technology Industries Association (JEITA):** Defendants NEC Corporation, Nippon Chemi-Con, and Panasonic are members of the Japan Electronics and Information Technology Industries Association ("JEITA"), a Japanese trade association for the electronics and information technology industries.

135. Defendants' executives held key leadership positions within JEITA. JEITA's directors include NEC, Nippon Chemi-Con, and Panasonic executives. Presidents and Chief

Executive Officers (“CEO”) of defendants Nippon Chemi-Con and Nichicon hold officer positions in JEITA’s Electronic Components Group Subcommittee. The President and CEO of defendant Nippon Chemi-Con, Ikuo Uchiyama, is currently the Chairman of the Subcommittee’s Policy Steering Committee. The President and CEO of defendant Nichicon, Shigeo Yoshida, is currently the Chairman of the Subcommittee’s Technology and Standard Strategy Committee.

136. Defendants Panasonic, Hitachi Chemical, NEC TOKIN, Nichicon, Nippon Chemi-Con, and Rubycon, met regularly under the auspices of JEITA to exchange sensitive market information. Additionally, all JEITA members gather annually for a conference that serves as the industry’s premier decision-making forum.

137. The JEITA was established in 2000 through the merger of two trade associations, the Electronic Industries Association of Japan and the Japan Electronic Industries Development Association. The objective of JEITA is to promote the wellbeing of Japanese electronics companies, including those that make capacitors. JEITA members gather annually for a conference that is described by the organizers as the “industry’s premier decision-making forum.” The stated goals of JEITA include:

- (a) “Collecting, organizing and analyzing statistics from within and outside of the industry”;
- (b) “Publishing and distributing reports and reference materials on trends in and analyses of the industry, production forecasts, technological trends in a variety of fields, and mid- to long-range projections”;
- (c) “Exchanging statistics and information with trade associations in other countries”; and
- (d) “Improving understanding of the status of electronics and information technology industries worldwide through the dispatching of study missions and other activities.”

138. JEITA’s activities include “promoting international cooperation” and “implementing surveys and analyzing statistics.” Specifically, JEITA interacts with overseas trade associations by

1 arranging and participating in international conferences and related events; releases industry-related
 2 information globally; collects, organizes, and analyzes statistics from within and outside of the
 3 industry; publishes and distributes reports and reference materials on trends in, and analyses of, the
 4 industry, production forecasts, technological trends in a variety of fields, and mid- to long-range
 5 projections; and exchanges statistics and information with trade associations in other countries.

6 139. Defendants NEC Corporation, Nippon Chemi-Con, and Panasonic employed the
 7 JEITA and its affiliated and related organizations to exchange prices and other sensitive business
 8 data, encouraging more uniform prices than otherwise would exist in the capacitor market.
 9 Specifically, these defendants used the JEITA to facilitate price increases for capacitors and prevent
 10 new entrants into the capacitor market.

11 140. **Japan Electronics Shows Association (“JESA”):** Defendants Panasonic, NEC
 12 TOKIN, Nippon Chemi-Con, and Nichicon, and non-defendant Taiyo Yuden are members of JESA,
 13 based in Tokyo, Japan. JESA promotes and operates trade shows that have been organized by
 14 JEITA. Defendants’ executives hold leadership positions within JEITA. The Chairman of
 15 defendant Panasonic, Shusaku Nagae, is an Executive Director of JESA. Similarly, the Chairman
 16 of the Board of Defendant NEC Corporation, Kaoru Yano, is an Executive Director in JESA. JESA
 17 puts on several trade shows each year, including the Cutting-edge IT & Electronics Comprehensive
 18 Exhibition (CEATEC Japan), the International Broadcast Equipment Exhibits (Inter BEE) and the
 19 Electronic Design and Solution Fair (EDSFair). JESA’s organizing activities prior to these trade
 20 shows, and the shows themselves, provide Defendants ample opportunity to exchange information
 21 and fix artificial prices.

22 141. **European Passive Components Industry Association (“EPCIA”):** Defendants
 23 Panasonic and Nichicon are members of EPCIA, based in Brussels, Belgium. The goal of the
 24 EPCIA is to “promote the common interests of the Passive Components Manufacturers” in Europe,
 25 including aluminum and tantalum capacitors. The EPCIA gathers at least once annually to:

- 26 (a) “Provide members and Institutions with general market data for the Passive
 27 Components Industry in Europe as well as forecasts and ‘Management

1 overviews’ on economies, markets, production values and labor forces in
2 Europe”;

3 (b) “Facilitate the exchange of data with neighboring component sectors like
4 Semiconductors, Electro-mechanics, Printed circuit boards, etc.”;

5 (c) “Organize Meetings and Forums on important issues of the Passive Components
6 Industry”; and

7 (d) “Facilitate worldwide networking between Passives Component Manufacturers
8 at expert / management level.”

9 142. There are also industry news sources that defendants can use to monitor compliance
10 with the conspiracy. For example, Capacitor Industry News is an industry website that provides
11 industry news, information about trends in the capacitor industry, and technical specifications about
12 different types of capacitors being manufactured, including those being manufactured by the
13 defendants. This exchange of information allows defendants to share information about their
14 products and prices to both maintain the conspiracy but also to monitor the cartel members and
15 ensure that all of them are complying with the terms of the illegal agreement.

16 **6. Indirect Purchasers of Capacitors Lacked Buying Power.**

17 143. Capacitor manufacturers sell their products to companies in audio-visual,
18 communications, computers, peripherals, and home electronics businesses. The largest consumer
19 of capacitors is the telecommunications industry (38 percent), followed by the Computers and
20 Consumer Audio-Video industries.

21 144. Direct purchasers of capacitors are generally distributors. OEMs and EMS providers
22 that make equipment for OEMs generally buy capacitors from distributors. Therefore, indirect
23 purchasers in the capacitor market lacked substantial buying power. For example, AVX states in its
24 2013 Annual Report that “[d]uring the fiscal year ended March 31, 2014, no single customer
25 accounted for more than 10% of our sales.”

7. Falling Demand for Capacitors Over Time.

145. Because capacitors are indispensable components in consumer electronics, the market for capacitors is very large. In 2013, the size of global capacitor industry overall was estimated at just over \$16 billion.

146. Despite this large market, defendants have faced declining demand and profits from capacitor sales. As shown in Figures 18 and 19 below, the economic downturn of 2008 and 2009 negatively impacted the capacitor market. Global revenues fell by 16 percent in 2009 relative to the year before. The market recovered in 2011, but sales slipped again in 2013.

Figure 18: Global Capacitor Market Revenue

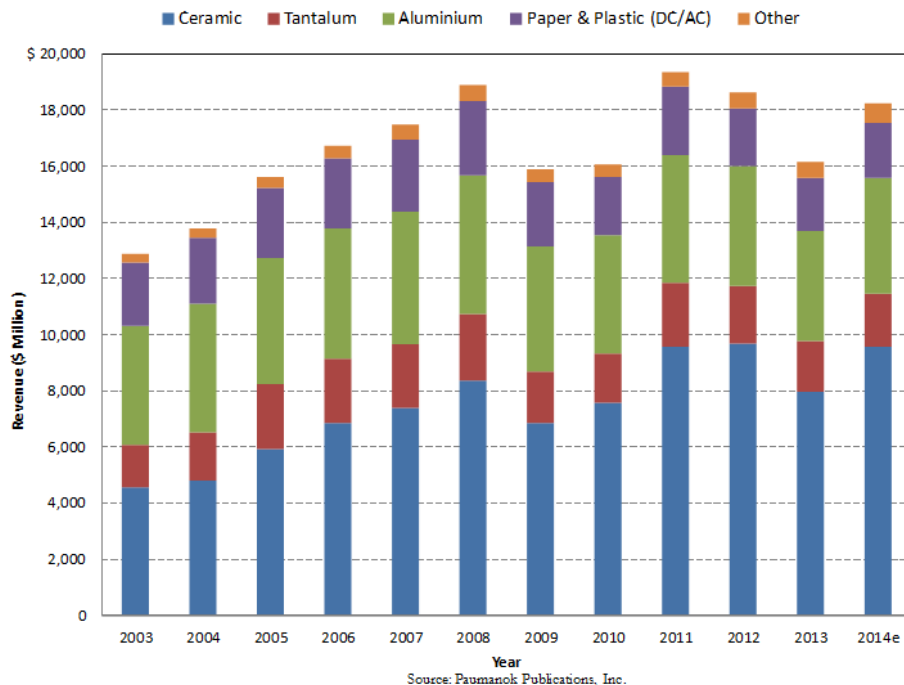
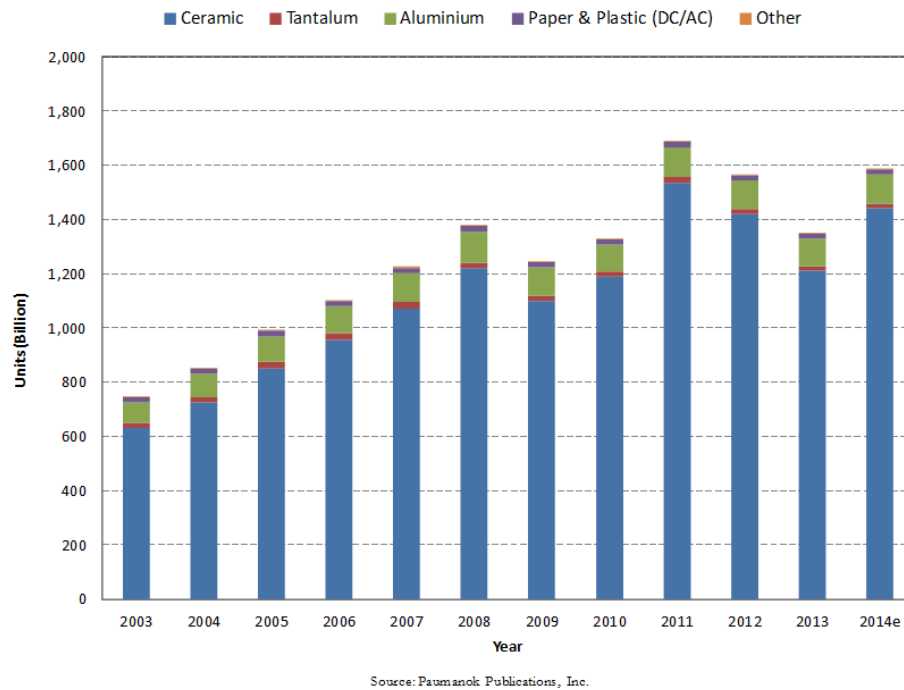
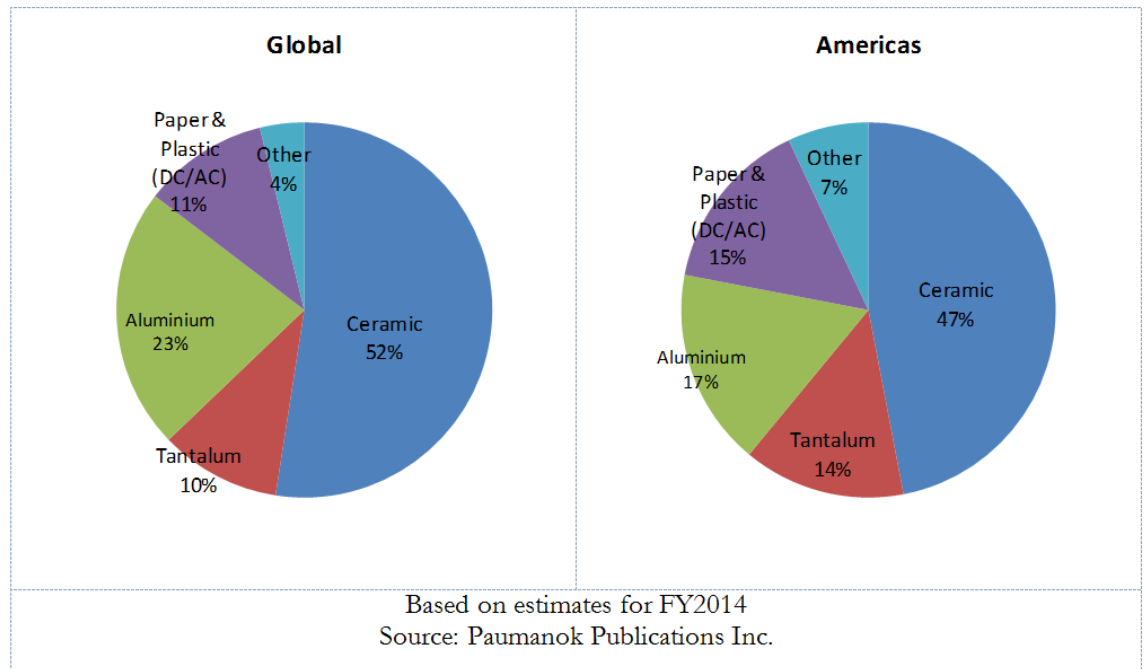


Figure 19: Global Capacitor Shipments

147. For aluminum capacitors, global annual revenues fell by about 8 percent from 2012 to 2013. For tantalum capacitors, global annual revenue fell by about 11.5 percent from 2012 to 2013.

a. Demand for Capacitors in the Americas

148. The Americas market (led by the United States and Mexico) accounts for a significant portion of the global capacitor market. It is currently estimated at about \$2.3 billion, down from \$2.6 billion in 2007. The Americas therefore account for about 12 percent of the global market at present. The demand in the Americas market for different capacitor types is roughly the same as global demand, although tantalum and plastic capacitors account for a somewhat larger share of the Americas market relative to the global market, as shown in Figure 20. About 17 percent of capacitor consumption in the Americas market is for aluminum capacitors and 14 percent is for tantalum capacitors.

Figure 20: Capacitor Consumption Globally and in the Americas**b. Demand for Capacitors Over Time**

149. In the 2000s, there was a gradual shift in favor of ceramic capacitors. Although the ceramic capacitor segment has been growing over the last decade, other types of capacitors, such as aluminum and tantalum, have experienced declining demand over this period.

150. While capacitor types are not interchangeable in the short-term because circuits and products are designed for specific types of capacitors, over a longer time horizon engineers can re-design products so that they use more cost effective components. Advances in technology have also led to the creation of smaller, more efficient ceramic capacitors. Thus, demand for ceramic capacitors has soared as designers have substituted away from expensive and intermittently scarce tantalum, aluminum and film capacitors and replace them with much cheaper ceramic capacitors. Figure 21 below shows the overlap in capacitor consumption through end use products. For certain end-use products, there is substantial overlap in the kind of capacitor that can be used.

Figure 21: Capacitor Consumption by Type and End-Use Market Segment

Capacitor Type	Consumer Audio & Video Imaging	Telecommunications (Customer and Infrastructure)	Computer & Business Machines	Automotive	Power, Industrial Infrastructure
Aluminum	x		x		x
Ceramic	x	x	x		
Film	x				x
Tantalum		x	x		

151. Additionally, demand for capacitors tracks demand for electronic products that use them. Thus, declining demand for laptops, desktops and audio-visual equipment (which use tantalum and aluminum capacitors) has resulted in declining demand for tantalum and aluminum capacitors. For instance, Nichicon, which produces aluminum, tantalum and film capacitors, stated in its 2013 Annual Report that its capacitor sales decreased by 21.7 percent from the previous year, which was “attributed to declining demand for digital home electronics and inverter equipment.”

152. By contrast, demand for smaller, more portable and multifunctional electronic devices, such as tablets, smartphones and personal music devices, have led to increased demand for ceramic capacitors, which are key components in tablets, smartphones and personal music devices.

8. Capacitor Manufacturers Had Relationships in Other Price-Fixed Markets.

153. Most of the capacitor manufacturers also produce several other types of components, not just capacitors. For instance, NEC TOKIN, Panasonic, and Sanyo produced lithium ion rechargeable batteries. NEC TOKIN, Panasonic, and Sanyo also produced optical disk drives. Both optical disk drives and lithium ion batteries have been the subject of price-fixing investigations.

VI. DEFENDANTS COLLUDED TO KEEP THE PRICE OF CAPACITORS ELEVATED DURING THE CLASS PERIOD

154. As alleged in this Complaint, defendants engaged in a conspiracy to fix, raise, stabilize, and maintain the price of aluminum and tantalum electrolytic capacitors throughout the Class Period. Defendants’ acts, practices, and course of conduct in furtherance of their conspiracy

1 evolved over time and included, but were not limited to the following: coordinating prices for
2 specific customers and products; engaging in continuous communications on confidential and
3 proprietary business matters to eliminate price competition; allocating market shares; restricting
4 supply of capacitors; using input costs as a pretext for industry-wide pricing formulas; and
5 concocting mechanisms to nullify competitive sales processes to their customers.

6 155. Defendants effectively moderated and even negated the downward pressure on
7 capacitor prices caused by price competition, oversupply, technological advancements, and demand
8 reduction.

9 156. Overall, from approximately 2005 to 2013, there was an overall decline in demand
10 of aluminum and tantalum electrolytic capacitors. This market is nevertheless very large. Industry
11 analysts report that global revenues for aluminum and tantalum electrolytic capacitors were
12 approximately \$5.74 billion in 2013. To slow down the loss of profitability from such decline
13 during the 2000s, however, Defendants agreed to end price competition among themselves.

14 **A. Defendants Had a Motive to Conspire.**

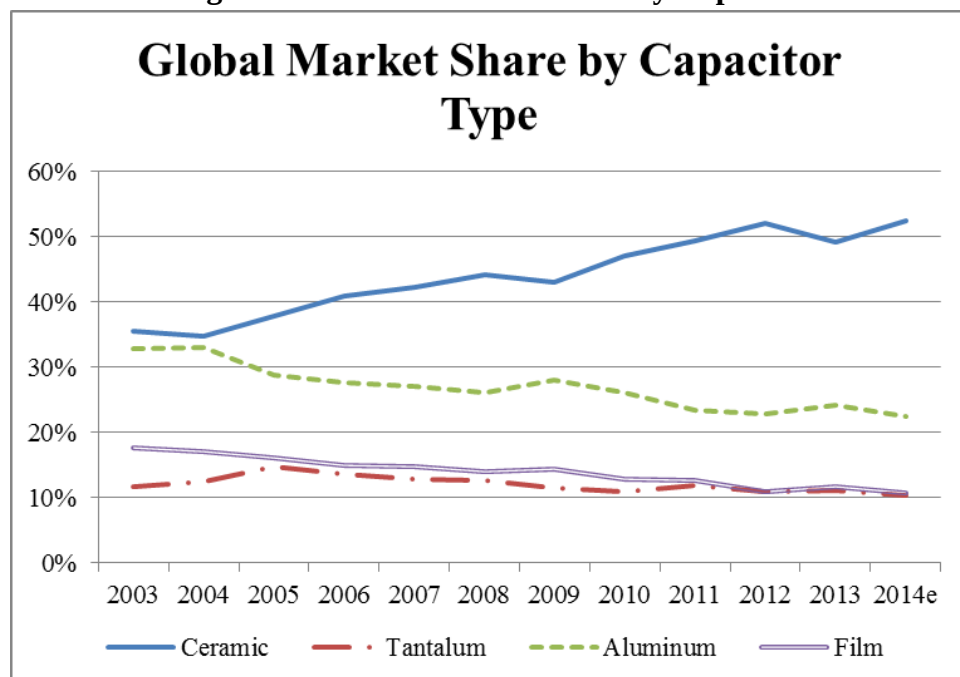
15 157. Over the last decade, the demand for capacitors has been impacted by declining
16 revenue and demand. Defendants formed, maintained, enforced and concealed a global cartel in the
17 electrolytic capacitors market, spurred on by economic changes in the early 2000s. Defendants
18 have faced declining demand for aluminum and tantalum electrolytic capacitors. Global revenues
19 for these capacitors were \$5.74 billion for fiscal year 2013, though this was a \$570 million decline
20 from 2012 and a \$1.1 billion drop from 2005. To mitigate the fall in demand and the impact to
21 profits, Defendants agreed that cease price competition among themselves for aluminum and
22 tantalum electrolytic capacitors.

23 158. The market for aluminum electrolytic capacitors in particular began to shrink during
24 this period because of the unique characteristics of aluminum electrolytic capacitors. Aluminum
25 electrolytic capacitors have historically been used in a number of electronic devices, such as
26 televisions, stereos, and desktop computers, but they were always limited in terms of capacitance,
27 especially at smaller sizes. In other words, with the growth in smaller electronic devices, such as

tablets and smartphones, aluminum electrolytic capacitors could not be used to meet that demand since they could not maintain sufficient capacitance to fit those types of devices. To protect their profits in this shrinking market, Defendants entered into a conspiracy to manipulate the price of aluminum electrolytic capacitors.

159. Overall, demand for capacitors has shifted away from aluminum and tantalum capacitors in favor of ceramic capacitors. Advances in technology have led to the creation of smaller, more efficient ceramic capacitors, which are also cheaper to produce. Consequently, purchasers of capacitors gradually redesigned their products to substitute away from expensive aluminum and tantalum capacitors in favor of cheaper ceramic capacitors. This shift in demand is shown most clearly in Figure 22, which shows ceramic capacitors increasing their share of the capacitor market from 35% in 2004 to 52% in 2012 and the steady decrease in global market share of aluminum and tantalum capacitors. This shift in demand created a crisis within the aluminum and tantalum capacitor industry in which aluminum and tantalum capacitor producers have tried to wrest as much remaining profit from aluminum and tantalum capacitor production before these capacitors are phased out by new designs and technology.

Figure 22: Global Market Share by Capacitor



1 160. The global recession of 2008 and 2009 created a drop in demand for electronic
2 consumer goods that employ capacitors as key components. This drop in demand created a crisis
3 within the industry in which revenue fell dramatically. Particularly for tantalum capacitors, as
4 opposed to cheap aluminum or ceramic capacitors, require substantial investment of labor and
5 resources. Due to the size of the investment necessary to successfully mass manufacture tantalum
6 capacitors, declining demand for tantalum capacitors can substantially impact a manufacturer, who
7 cannot easily shift to the manufacture of different capacitors due to market conditions. Instead,
8 when market demand falls, tantalum capacitor manufacturers are highly motivated to enter into an
9 illegal agreement to fix, stabilize, maintain and raise the price of tantalum electrolytic to ensure
10 continuing profitability. Given the small number of manufacturers who dominate this market, such
11 agreements are easy to enter into between Defendants. Defendants had a motive to conspire to stem
12 the revenue losses from the global recession.

13 161. Demand for capacitors overall has decreased over time, with demand for capacitors
14 in 2013 less than demand for capacitors at pre-recession 2008 levels. This drop in demand is tied to
15 a drop in demand for consumer electronics. Globally and in the United States, consumer demand
16 has shifted in favor of smartphones and tablet computers. These devices contain functions that
17 formerly were provided through other consumer electronic products. For instance, the smartphone
18 is making devices, such as digital video cameras, game consoles, GPS devices, and MP3 players
19 (all of which use capacitors as key electronic components), redundant. The decline in product sales
20 in this segment of the consumer electronic product market had and continues to have a strong
21 negative impact on aluminum and tantalum capacitor sales. Similarly, in the computer market, the
22 continued growth of smaller tablet computers negatively impacted demand for notebook and
23 desktop computers. Because traditional consumer audio and video imaging products and notebook
24 and desktop computers typically consume more capacitors than smartphones and tablet computers,
25 the demand shift towards smartphones and tablet computers has resulted in a net decrease in
26 demand for capacitors. The long-term slowing of demand for capacitors generally also provided a
27
28

1 motive for Defendants to reduce production and raise prices above competitive levels to maintain
2 price stability, increase profitability and decrease the erosion of pricing in the capacitor market.

3 **B. The Price Movements of Capacitors During the Class Period Are Consistent with**
4 **Collusion, Not Competition.**

5 162. Defendants' regular, collusive communications, agreements, and other conduct over
6 more than a decade, as alleged above, set forth in detail Defendants' acts in furtherance of their
7 conspiracy. Pricing behavior, capacity utilization, and the structural and other characteristics of the
8 capacitor market further demonstrate the existence of Defendants' conspiracy.

9 163. There are several econometric techniques that can be used for detecting collusion
10 and determining its impact, provided sufficiently rich data are available. In the absence of adequate
11 data for a fully specified regression model of the relationship between prices and market supply and
12 demand factors, one can examine broad market outcomes for patterns that may suggest collusive
13 activity (*i.e.*, patterns that occur rarely under ordinary competitive conditions). Here, as explained
14 below, during the conspiracy period, pricing of aluminum and tantalum capacitors was inconsistent
15 with cost and demand. Many analysts predicted that, given technological changes and the
16 economics of the marketplace, capacitor prices would fall during the Class Period. In fact, prices
17 not only failed to decline throughout most of the Class Period, they rose.

18 **1. Pricing Behavior Was Inconsistent with Cost.**

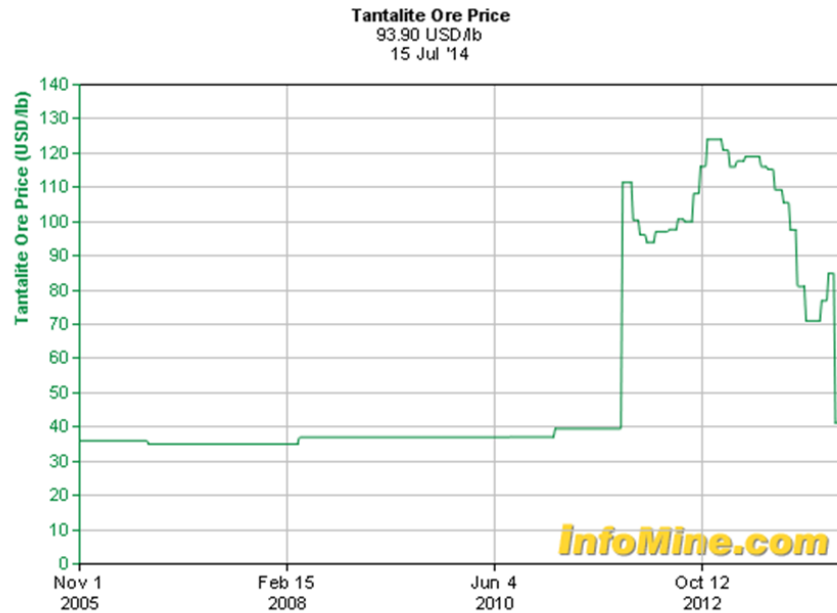
19 164. Price insensitivity to costs can therefore be indicative of market power or
20 anticompetitive activity. This insensitivity can be seen as either periods when prices are flat despite
21 changes in important costs or periods when prices increase substantially despite there being no
22 substantial change in demand factors or costs.

23 165. During the conspiracy period, capacitor industry pricing patterns did not follow cost
24 variables.

25 166. For example, as shown in Figure 23, tantalite ore prices were flat for most of the
26 Class Period, even though the prices of tantalum capacitors were generally rising. Tantalite ore is
27 the main ingredient in tantalum that is used in tantalum capacitors. Tantalum and other raw
28

materials compose 57% of the cost of a tantalum capacitor. It does not make economic sense that the price of tantalum capacitors was rising, given diminished demand and flat input costs.

Figure 23: Tantalite Ore Price



2. Pricing Behavior Was Inconsistent with Demand.

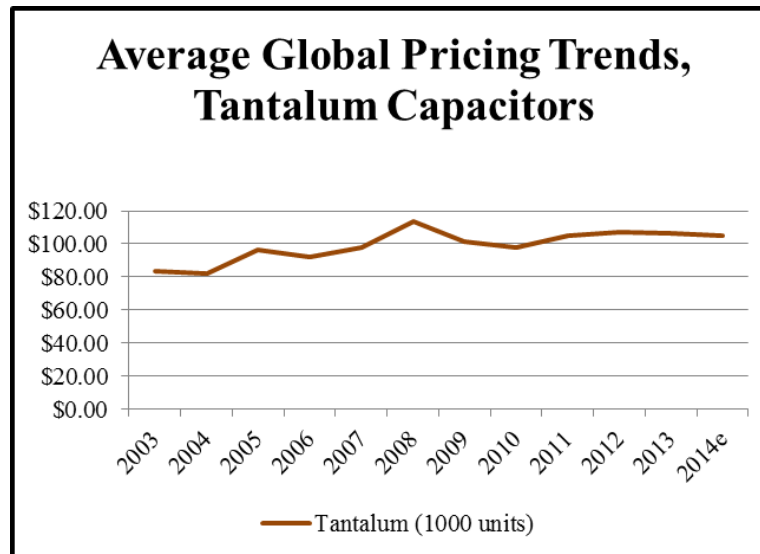
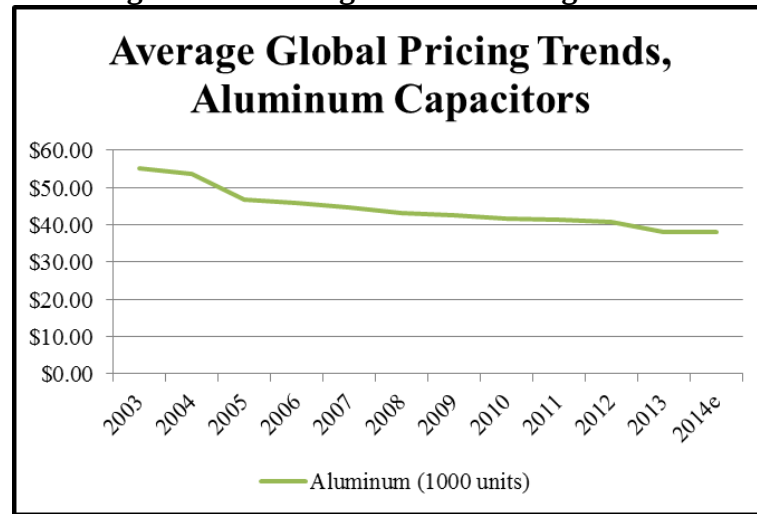
167. Another important relationship is that between price and quantity sold. Rising prices in the face of declining demand can be another indicator of collusive actions or market power.

168. While capacitor types are not interchangeable in the short-term due to the aforementioned specifications that called for specific types of capacitors, over a longer time horizon engineers can re-design products so that they use more cost effective components. That is exactly what has been happening in the capacitor industry. Demand for ceramic capacitors has soared as designers substituted away from expensive and intermittently scarce tantalum and aluminum capacitors and replaced them with much cheaper ceramic capacitors.

169. Other factors have contributed to the soft demand for capacitors. In late 2007 and 2008, the global economy crashed. Additionally, the consumer preference for smartphones and tablet computers have led to decreased demand in consumer audio and visual equipment and notebook and desktop computers, equipment that use more capacitors. This shift towards smartphones and tablet computers had caused a net decrease in demand for capacitors.

170. Despite decreased demand, including the Great Recession, prices for capacitors have not decreased proportionally. Instead, the prices for capacitors have remained relatively stable or even increased. As shown in Figure 24 below, despite sharply diminishing demand for aluminum capacitors, aluminum capacitor prices decreased less than they would have absent the conspiracy to stabilize prices and shield Defendants from the full effects of diminished demand. Similarly, tantalum capacitor prices increased or stabilized during the conspiracy period, despite the economic crisis and long-term diminishing demand for tantalum capacitors

Figure 24: Average Global Pricing Trends



C. Defendants Conspired to Constrain Supply.

171. Defendants have reduced production and capacity during the conspiracy period in order to create an artificial shortage of supply. For example, there have been several capacitor plant closures reported in recent years. In 2008, KEMET closed two European production facilities. In 2009, AVX closed its flagship manufacturing plant in Paignton, United Kingdom along with a number of other smaller plants. In 2010, Panasonic closed down a production facility in East Knox County, Tennessee that used to produce 3 million capacitors a month.

D. Defendants Had Many Opportunities to Conspire.

1. During the Conspiracy Period, Defendants Met and Exchanged Confidential Business Information.

172. An official from a China's NDRC, one of the many regulators around the world investigating this cartel, stated that Defendants met regularly to exchange market information. Such meetings and monitoring allowed Defendants to carry out a price-fixing cartel over a period of nearly ten years.

173. Although the precise timing and frequency of the meetings are unknown, Plaintiffs allege that some or all Defendants participated in the following meetings and discussions in furtherance of their conspiracy to fix the prices of capacitors:

174. From February 21 to 25, 2005, Sanyo and NEC TOKIN met in Tokyo.

175. In June 2007, executives from Sanyo and Panasonic met at a restaurant in the Shinagawa district of Tokyo so as to avoid detection by others.

176. In July 2007, executives from NEC, Sanyo and Panasonic met.

2. The Same Departments and Executives Involved in Capacitor Production and Sales Also Fixed Lithium Ion Battery Prices.

177. Many defendant capacitor manufacturers also manufactured lithium ion batteries. Those defendants who manufactured lithium ion batteries were also involved in a cartel that fixed lithium ion battery prices.

a. Sanyo

187. On September 20, 2013, defendant Sanyo Electric Co., Ltd. pled guilty to conspiring to fix lithium ion battery prices in the United States, and agreed to pay a criminal fine of \$10.731 million.

188. Sanyo Vice President of OEM Sales Takanao Matsumoto had responsibility over both capacitor and lithium ion battery sales. Mr. Matsumoto worked at both Sanyo Electric Co., Ltd. and Sanyo North America Corporation. Mr. Matsumoto had a documented role in fixing lithium ion battery prices. For example:

189. On October 26, 2006, Mr. Matsumoto emailed Katsuo Seki (of NEC TOKIN), and stated that he was currently in Japan and wanted to exchange information about a customer, Motorola, before he returned to Chicago. Mr. Matsumoto planned to wait for Mr. Seki at the Suidobashi subway station for the collusive communication.

190. On January 16, 2007, NEC's Katsuo Seki emailed Sanyo's Takanao Matsumoto to thank Mr. Matsumoto for contacting him and to plan for their next meeting. Mr. Seki stated that he would like to have a dinner with Mr. Matsumoto and that Mr. Oka (NEC TOKIN's Director of Battery) wants to introduce himself to Sanyo Electric Co.'s President Masato Ito. On January 16, 2007, Mr. Matsumoto wrote back to confirm a meeting with Mr. Seki at around 6 p.m. on January 26 "at the usual Suidobashi station" and that he would let President Ito know about Mr. Seki's request.

191. On January 25, 2007, NEC TOKIN's Katsuo Seki emailed to apologize for cancelling the meeting with Sanyo's Takanao Matusmoto. On the same day, Mr. Matsumoto replied and stated that Sanyo's President Masato Ito welcomes the meeting that Mr. Seki requested earlier, but that "it is not a good idea to meet at Awaji Plant, so a dinner [or lunch] meeting in some other place such as Tokushima, Osaka or Tokyo is preferable." Mr. Matsumoto wrote that Mr. Ito's secretary will contact Mr. Seki's secretary to set up the meeting.

192. Also on January 25, 2007, Sanyo's Takanao Matsumoto wrote to SEC Sanyo President Masato Ito, reporting that Mr. Matsumoto has been in communication with NEC TOKIN's Katsuo Seki "to exchange info re: Motorola." Mr. Matsumoto further wrote that

1 “although irregularly, [Mr. Matsumoto] has been exchanging information re: Motorola with
 2 Advisor [or Consultant] Katsuo Seki of NEC TOKIN [Seki recently retired from the managing
 3 director position, but still holds a position as advisor/consultant] and that Mr. Seki contacted
 4 Mr. Matsumoto to set up a meeting between NEC TOKIN’s Hideo Oka and Mr. Ito. Mr. Ito replied
 5 on the same day, stating that “he remembers meeting Seki in Osaka before” and that he “has no
 6 problem meeting someone in charge of battery from NEC TOKIN but does not think meeting at
 7 Sumoto plant is a good idea so [he] wants to make it a dinner [or lunch] meeting in Osaka or
 8 Tokushima.”

9 184. On March 19, 2007, Sanyo’s Takanao Matsumoto, stationed in Chicago, Illinois,
 10 communicated with NEC TOKIN’s Katsuo Seki via email. Mr. Seki’s subject header was “It’s
 11 Been a While.” Mr. Matsumoto wrote that “[w]ith the high materials fees, management is
 12 becoming more intense I would like to exchange information. If you have a chance to come
 13 to Chicago, please contact me.”

14 185. On March 20, 2007, Sanyo’s Takanao Matsumoto obtained battery and possibly
 15 capacitor pricing information from competitor NEC TOKIN and reported it to Sanyo, including
 16 executives Terashima, Gotou, Nishimura, Ueda, Tsukamoto, Sawada, Iguchi, Murata and
 17 Kobayashi. Mr. Matsumoto stated that he tried to get the person from NEC TOKIN to talk on the
 18 phone, but it was difficult without the help of alcohol. Mr. Matsumoto then listed the information
 19 he obtained from NEC TOKIN, including shipment volume, production issues, and NEC TOKIN’s
 20 request for a price increase. Mr. Matsumoto instructed the email recipients to discard the email
 21 immediately after reading.

22 186. On March 24, 2007, Sanyo’s Takanao Matsumoto wrote an internal email stating
 23 that he “has been getting really drunk with NEC TOKIN [Katsuo Seki] and exchanging information
 24 for a while.”

25 187. On June 12, 2007, Sanyo’s Takanao Matsumoto and NEC TOKIN’s Katsuo Seki
 26 communicated by email. Mr. Matsumoto asked whether Mr. Seki would be attending the QBR in
 27 Atlanta, and stated that order quantities were decreasing rapidly due to the cellular phone device

1 sales slump. Mr. Matsumoto further stated that he tried to increase prices with Motorola but did not
 2 receive a good comment. Mr. Matsumoto asked to talk on the phone on June 13th to exchange
 3 information. Mr. Seki stated that the 14th would work, and Mr. Matsumoto stated that he would
 4 call by 11 Japan time on the 14th.

5 **b. Panasonic**

6 188. Similarly, Panasonic personnel in charge of capacitor manufacturing and sales were
 7 also in charge of lithium ion battery manufacturing and sales and implicated in Panasonic's
 8 conspiracy to fix lithium ion battery prices. Panasonic General Manager of Sales Bob Rauh, Senior
 9 Account Manager Barbara Lahey and Manager Takahiro Yoshida were involved in both capacitors
 10 and lithium ion batteries, including in fixing prices of lithium ion batteries above competitive
 11 levels.

12 189. For instance, on July 19, 2006, Panasonic's Takahiro Yoshida received information
 13 about competitor Sanyo from Panasonic Hong Kong's Simon Chan and then forwarded the
 14 information to Panasonic's Bob Rauh. Mr. Chan met directly with Sanyo about the battery business
 15 and emailed a report stating, "Yesterday and today we collected information about Sanyo's Power
 16 Ion as follows: 1) info from Sanyo energy directly July 19 AM."

17 **3. Defendants Used Trade Associations to Conspire.**

18 190. Trade associations provided opportunities for defendants to meet frequently and
 19 exchange information to facilitate collusion. Defendants are members of a number of trade
 20 associations in the United States, Asia and Europe. Their overlapping membership in various trade
 21 associations also provided incentive for cartel members to stay within the illegally agreed upon
 22 price framework, as they could monitor one another's activities in the capacitor market and punish
 23 non-compliance. Defendants' participation in trade associations, as described above, helped
 24 facilitate their collusion.

25 **E. Government Investigations**

26 191. A global, coordinated antitrust investigation is taking place in at least the United
 27 States, China, Japan, South Korea, Taiwan and Europe aimed at manufacturers of capacitors. A
 28 Japanese whistleblower approached United States and China regulators with news of antitrust-

1 related activities in the worldwide capacitor industry, launching what the DOJ has acknowledged is
 2 its latest international cartel investigation. The DOJ has implied that this investigation concerned
 3 the pricing of capacitors. The DOJ investigation emphasizes aluminum, carbon capacitors
 4 (supercapacitors), plastic film, and tantalum capacitors.

5 192. The DOJ effort is originating out of its San Francisco office, which has been
 6 investigating cartels in the computer parts industry for the past decade, resulting in millions of
 7 dollars in criminal fines against manufacturers of memory, liquid crystal displays, optical disc
 8 drives, and lithium-ion batteries. The DOJ is coordinating the international cartel investigation of
 9 capacitor manufacturers with its investigation and enforcement agencies in Asia and Europe. The
 10 DOJ and China NDRC coordination could be a first for both agencies.

11 193. Several competition authorities in Asia have conducted dawn raids on capacitor
 12 manufacturers. The China NDRC raided two Japanese capacitor manufacturers in March 2014,
 13 after which defendant NEC TOKIN and non-defendant Taiyo Yuden¹⁰ acknowledged they were
 14 cooperating with investigators. The KFTC raided a subsidiary of Panasonic—a sales office in
 15 Korea—in early May 2014. The JFTC raided eight capacitor manufacturers “suspected of forming
 16 a cartel extending overseas from Japan.” These companies were defendants Elna Co., Hitachi
 17 Chemical Co., Matsuo Electric Co., Ltd., NEC TOKIN Corporation, Nichicon Corporation, Nippon
 18 Chemi-Con Corporation, Panasonic Corporation, and Rubycon Corporation in June 2014. The
 19 JFTC also raided Panasonic Corporation’s subsidiary, defendant SANYO Electric Co., Ltd., that
 20 same day. These companies’ sales executives and other officials coordinated the amount and
 21 timing of price increases from at least several years ago.

22 194. NEC TOKIN and Panasonic have confirmed that regulators in the United States,
 23 Japan, China, South Korea, and Europe have contacted it with inquiries as part of the capacitors
 24 investigation. Attorneys for NEC TOKIN met with the China NDRC in mid-April 2014. Eight
 25 other companies, including Elna, Hitachi, Matsuo, NEC TOKIN, Nippon Chemi-Con, Nichicon,

26 _____
 27 ¹⁰ Taiyo Yuden manufactures ceramic capacitors only. Plaintiffs have not named it as a
 28 defendant in this Complaint but reserve the right to do so upon further investigation.

Rubycon, Taiyo Yuden, and Toshin Kogyo have been contacted by antitrust officials in at least one country in relation to the capacitor investigation.

195. The investigation into the capacitor industry is growing and includes regulators in the United States, China, Japan, Korea, and Europe. The DOJ investigation into the capacitors industry remains ongoing.

196. On information and belief, the DOJ is currently investigating capacitor manufacturers for collusion, and a grand jury empaneled in San Francisco federal court has issued subpoenas to several capacitor manufacturers.

197. It is significant that defendants' anticompetitive behavior is the subject of a DOJ criminal grand jury investigation. According to the Antitrust Division's Manual, last revised in 2009, in order for the DOJ to institute a grand jury investigation, "staff should prepare a memorandum on behalf of the section or field office chief to the Director of Criminal Enforcement detailing the information forming the basis of the request." Following a review of that memorandum, the request for a grand jury must be approved by the Assistant Attorney General for the Antitrust Division based on the standard that a criminal violation may have occurred. In addition, the fact that the DOJ Antitrust Division investigation is criminal, as opposed to civil, is significant as well. The Division's Manual includes "Standards for Determining Whether to Proceed by Civil or Criminal Investigation," which state: "[i]n general, current Division policy is to proceed by criminal investigation and prosecution in cases involving horizontal, *per se* unlawful agreements such as price fixing, bid rigging and horizontal customer and territorial allocations." Accordingly, the existence of a criminal investigation into the capacitor market supports the existence of the conspiracy alleged in this Complaint.

F. Likely Existence of a Cooperating Defendant

198. Press reports indicate the likely existence of a cooperating defendant, noting that a Japanese corporation has applied to the DOJ's leniency program established pursuant to the ACPERA, which grants amnesty from potential criminal charges to the first conspirator to report collusive conduct to DOJ. One of the leniency benefits for a conspirator that is accepted into the

1 ACPERA program is that it is not charged with a criminal offense and is not required to plead
2 guilty to criminal charges.

3 199. In light of press reports, guilty pleas in the related electronic component antitrust
4 cases, and the global ongoing investigation into the capacitor industry, it is reasonable for this Court
5 to infer that there is a leniency applicant in this case and it is Panasonic Corporation.

6 **G. Guilty Pleas in Related Markets**

7 200. Three defendant families and their affiliates have a history of collusion and are either
8 currently involved in worldwide competition authority investigations into other technology-related
9 markets, or have been convicted of participating in price-fixing cartels involving technology-related
10 products. Much of the illegal conduct to which defendants or their affiliates have admitted took
11 place during the Class Period identified in this Complaint.

12 **1. Hitachi**

13 201. In July 2008, defendant Hitachi Chemical was fined ¥165.37 million by the JFTC for
14 price-fixing of cross-linked foam polyethylene sheets. This price-fixing activity took place during
15 the same approximate time period—March 2004 to September 2006—as the beginning of the
16 alleged capacitor cartel.

17 202. In 2009, the JFTC fined Hitachi Chemical ¥165 million for price-fixing resin during
18 this same time period.

19 **2. Panasonic/Sanyo**

20 203. On September 30, 2010, defendant Panasonic agreed to plead guilty and to pay a
21 \$49.1 million criminal fine for its participation in a conspiracy to price-fix refrigerant compressors
22 from October 14, 2004 through December 31, 2007.

23 204. On July 18, 2013, Panasonic agreed to plead guilty and to pay a \$45.8 million
24 criminal fine for its participation in a conspiracy to price-fix switches, steering angle sensors and
25 automotive high intensity discharge ballasts installed in cars sold in the United States and elsewhere
26 from at least as early as September 2003 until at least February 2010.

27 205. That same day, Panasonic's subsidiary, SANYO Electric Co. Ltd., agreed to plead
28 guilty and to pay a \$10.731 million criminal fine for its participation in a conspiracy to fix the

prices of cylindrical lithium-ion battery cells sold worldwide for use in notebook computer battery packs from about April 2007 until about September 2008. The production and sale of both lithium ion batteries and capacitors were often overseen by the same departments and personnel that were involved in fixing lithium ion battery prices.

206. Panasonic is also currently a named defendant in at least five lawsuits concerning the price-fixing of optical disk drives, lithium-ion batteries, switches, steering angle sensors, and high-intensity discharge ballasts. *See In re Optical Disk Drive Antitrust Litig.*, Case No. 10-cv-2143 (N.D. Cal.); *In re Lithium Ion Batteries Antitrust Litig.*, Case No. 12-cv-5129 (N.D. Cal.); *In re Switches Antitrust Litig.*, Case No. 2:13-cv-01303 (E.D. Mich.); *In re Steering Angle Sensors*, Case No. 2:13 -cv-01603; *In re High Intensity Discharge Ballasts*, Case No. 2 :13 -cv- 14182 (E.D. Mich.).

3. NEC TOKIN

207. Defendant NEC TOKIN is currently a named defendant in another lawsuit concerning the price-fixing of lithium-ion batteries. *See In re Lithium Ion Batteries Antitrust Litig.*, Case No. 12-cv-5129 (N.D. Cal.). NEC TOKIN has also been implicated—though not charged or penalized by regulators—in cartels involving liquid crystal displays, optical disk drives, and lithium-ion batteries. Defendant NEC Electronics America Inc. was a named defendant in a lawsuit concerning the price-fixing of dynamic random-access memory chips. *See In re DRAM Antitrust Litig.*, Case No. 4:02-md-01486 (N.D. Cal.).

208. The foregoing pattern of anticompetitive practices in various technology-related markets is illustrative of defendants' corporate conduct, which has included illegal activity aimed at generating profits at the expense of their customers.

H. The Structure and Characteristics of the Capacitor Market Facilitated Collusion and Supported the Capacitor Cartel.

209. In addition to capacitor pricing and production levels, the structure and other characteristics of the capacitor market supported the conspiracy, making collusion particularly attractive and stable. Specifically, the capacitor market: (1) had inelasticity of demand, (2) had shifting demand in favor of ceramic capacitors, (3) was commoditized, (4) was highly concentrated,

(5) had high barriers to entry, (6) had trade associations that provided opportunities to collude and (7) included capacitor manufacturers with relationships with co-conspirators in other markets.

1. Inelastic Demand for Capacitors Facilitated the Cartel.

210. “Elasticity” is a term used to describe the sensitivity of supply and demand to changes in one or the other. When a product has few alternatives, collusion can be especially effective in elevating prices relative to those in a competitive setting. In such markets demand for the product changes relatively little as prices increase. This is called inelastic demand.

211. For a cartel to profit from raising prices above competitive levels, market demand must be relatively less elastic at competitive prices. That is, an increase in prices should not cause a huge decline in demand. Otherwise, increased prices would result in sharply declining sales, as some customers purchase substitute products or decline to buy altogether. Less elastic demand facilitates collusion, allowing producers to raise their prices without triggering customer substitution and sufficient lost sales revenues as to offset the beneficial effect of higher prices on profits for products they still continue to sell. As buyers have no close substitutes for the product they have little alternative but to pay higher prices.

212. As described above, because there is no viable alternative to the use of capacitors in electronic products, the inelastic demand for capacitors facilitates the formation and maintenance of the cartel.

2. Decreasing Demand for Aluminum and Tantalum Capacitors Provided an Incentive to Collude.

213. Declining or steady demand can facilitate collusion. When demand declines, firms face the possibility of aggressive competition in the absence of collusion and collaborate to manage competition and maintain profits that would otherwise evaporate. Declining demand increases the incentive to collude by way of the high profit losses that will be sustained if they do not. Declining demand also lessens the likelihood of new entry. When demand is steady, it is easier for cartel members to observe cartel violations as any unexpected changes in sales will more likely be due to cartel cheating. Steady demand deters cheating and facilitates collusion.

1 214. As described above, over the last decade, demand for aluminum and tantalum
2 capacitors has been steady or declined. This steady or declining demand provided an incentive to
3 collude and facilitated collusion.

4 **3. Commoditization of Capacitors Facilitated the Cartel.**

5 215. Markets for commodity products are conducive to collusion. Typically, when a
6 product is characterized as a commodity, competition is based principally on price, as opposed to
7 other attributes such as product quality or customer service. This factor facilitates coordination
8 because firms wishing to form a cartel can more easily monitor and detect defections from a price-
9 fixing agreement where any observed differences in prices are more likely to reflect cheating on the
10 conspiracy than any other factor which might affect pricing, such as special product characteristics,
11 service or other aspects of the transaction.

12 216. Because, as described above, each capacitor sub-type (*e.g.*, aluminum and tantalum)
13 is interchangeable with capacitors produced by other manufacturers, companies compete primarily
14 based on price. This substitutability among capacitors facilitates collusion because it is easier for
15 the conspirators to compare their products, reach and maintain agreement on prices and punish
16 cartel defectors by forcing their product prices down.

17 **4. Lack of Buying Power Facilitated the Cartel.**

18 217. Standard economics holds that when there are many buyers in a market for a
19 particular good, that good is more susceptible to effective cartel behavior. The incentive for cartel
20 members to undercut the conspiracy is lower when there are many smaller purchasers because
21 while each potential sale is small, disrupting the cartel can carry large penalties. A cartel member,
22 thus, is incentivized to avoid the collapse of the entire price-setting agreement, and the loss of the
23 supra-competitive profits on all sales in that market when there are many buyers. Conversely, a
24 cartel's ability to raise prices can be thwarted in markets where buyers have significant negotiating
25 power with sellers.

26 218. As described above, buyers in the capacitor market lacked buying power. Since
27 there were many purchasers of capacitors, it would have been easier to form and maintain the cartel.

This is true because a large number of buyers would have made it less likely that defendant manufacturers would have cheated on the agreement to artificially inflate prices, because the loss of supra-competitive profits on their sales of capacitors outweighed the potential additional profits of raising sales to a handful of modestly-sized customers.

5. The Highly Concentrated Capacitor Market Facilitated the Cartel.

219. Market concentration facilitates collusion. Collusive agreements are easier to implement and sustain when there are few firms controlling a large portion of the market. Practical matters such as coordinating cartel meetings and exchanging information are much simpler with a small number of players. If the participants can coordinate pricing decisions, their control over total industry output may result in prices that are elevated across the industry. Moreover, their high degree of control also simplifies their coordination issues because there is little outside competitive presence to undermine the cartel. With fewer firms in the market, the transitory bump in profits that could be achieved by undercutting the cartel price and gaining a transitory increase in market share would be outweighed by the greater long-term market share for a colluding firm in a concentrated industry.

220. By contrast, if an industry is divided into a large number of small firms, the current gain from cheating on a cartel (profits from sales captured from other cartel members through undercutting of the cartel-fixed price in the current time period, which risks causing the cartel to fall apart in the future) is large relative to the firm's possible gains from the cartel's continuing future success (the firm's future share of the total cartel profits if collusion were to continue successfully).

221. As described above, the market for aluminum and tantalum capacitors is highly concentrated, which facilitates the implementation and maintenance of the capacitor cartel.

6. High Barriers to Entry Facilitated the Cartel.

222. A collusive arrangement that raises product prices above competitive levels would, under basic economic principles, attract new entrants seeking to benefit from the supra-competitive pricing. Where, however, there are significant barriers to entry, new entrants are less likely. Thus, barriers to entry help to facilitate the formation and maintenance of a cartel.

223. Because, as described above, there are substantial barriers that preclude, reduce or make more difficult entry into the capacitor market, the high barriers to entry into the capacitor market facilitates the formation and maintenance of the cartel.

7. The Availability of Information About Competitor Business and Activities Facilitated the Cartel.

224. As described above, information about competitor businesses and activities was available through independent meetings with competitors and industry associations, which provided opportunities to conspire. Such information facilitated the cartel because it helped defendant manufacturers understand overall market trends and predict demand conditions. This information sharing made it easier to set prices and production levels. Additionally, such information assisted defendant manufacturers in monitoring the progress of the conspiracy and detection of cheating or other deviations from the cartel agreement.

8. Relationships Among Capacitor Manufacturers in Other Markets Facilitated the Cartel.

225. When the same set of firms compete in multiple markets, deviations from collusive agreements in one market may be punished in either or both markets. In these cases a cartel agreement violator can be more effectively punished. Consequently, incentives to violate the agreement are reduced. These relationships in other markets mean that the collusive agreement is likely to have greater effectiveness and the incentive to form a collusive agreement will be higher

226. As described above, defendant capacitor manufacturers also produce several other types of electronic components. Such relationships facilitated the formation and maintenance of the cartel because they increased the incentive to collude and the fear of punishment in other markets deterred cheating.

VII. THE CAPACITOR CARTEL TARGETED THE UNITED STATES.

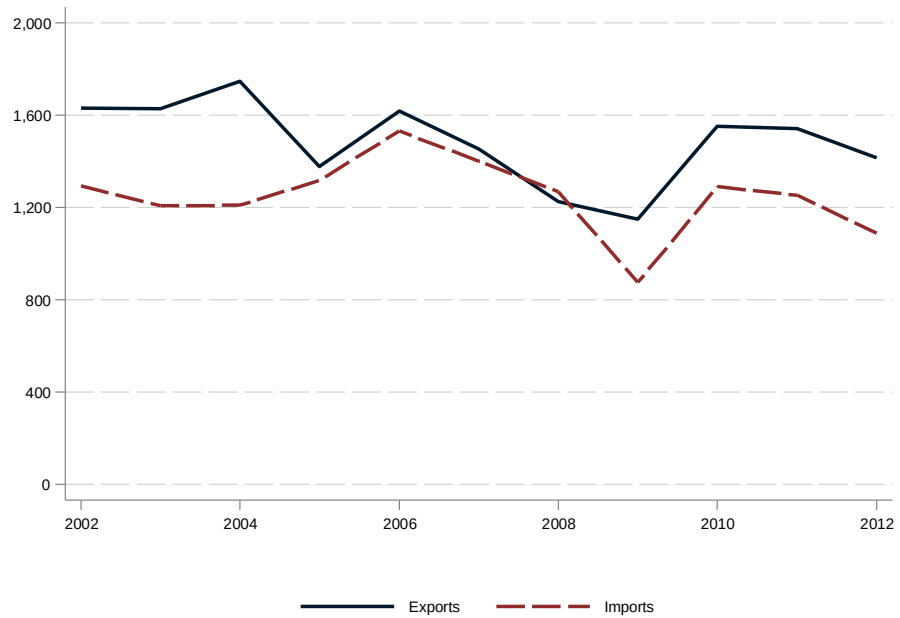
227. Because of the small size of capacitors, transportation costs are relatively minor and there is substantial international trade in these electronic components. As shown in Figure 25, the major capacitor manufacturers sell throughout the world, including in the Americas

Figure 25: Capacitor Revenues by Vendor and Region**Capacitor Revenues by Vendor and Region
FY 2014**

Vendor	Region				Total Revenue	Percent of Total	
	China and Asia	Japan	Europe	Americas			
	(Million USD)						(Percent)
	(1)	(2)	(3)	(4)			(5)
Murata	\$ 1,795	\$ 369	\$ 290	\$ 185	\$ 2,639	14 %	
SEMCO	1,397	0	170	174	1,741	10	
TDK-EPC	858	174	161	148	1,341	7	
Kyocera/AVX	419	300	218	236	1,173	6	
Taiyo Yuden	684	249	62	42	1,037	6	
NCC	550	265	98	69	982	5	
Nichicon	358	393	51	52	854	5	
KEMET	306	0	281	240	827	5	
Vishay	161	0	165	115	441	2	
Yageo	261	0	85	7	353	2	
Walsin	206	0	18	5	229	1	
Others	3,865	769	1,120	880	6,634	36	
Total	\$ 10,860	\$ 2,519	\$ 2,719	\$ 2,153	\$ 18,251		
Percent of Total	59.5 %	13.8 %	14.9 %	11.8 %			

Source: Paumanok Publications, Inc.

228. In 2012, the United States Census reported roughly \$1.4 billion in United States capacitor exports and \$1.09 billion in imports. As depicted in Figure 26, both exports and imports had experienced a downturn in 2009 following the United States financial crisis and have since recovered

Figure 26: United States Capacitor Trade Revenue

Source: U.S. Census

229. Japan is a major exporter of capacitors to the United States. The Japanese Ministry of Finance data indicates that capacitor exports to the United States currently account for 10% of Japanese capacitor export revenue.

230. During the period this Complaint covers, defendants manufactured and sold substantial quantities of aluminum and tantalum capacitors shipped from outside the United States and from other states in a continuous and uninterrupted flow of interstate and foreign trade and commerce. In addition, substantial quantities of equipment and supplies necessary to the production and distribution of aluminum and tantalum capacitors, as well as payments for capacitors and related products sold by defendants, traveled in interstate and foreign trade and commerce. The business activities of defendants in connection with the production and sale of aluminum and tantalum capacitors that were the subject of the charged conspiracy were within the flow of, and affected substantially, interstate and foreign trade and commerce.

231. Defendants engaged in conduct both inside and outside the United States that caused direct, substantial and reasonably foreseeable and intended anticompetitive effects upon interstate commerce within the United States.

232. Defendants, directly and through their agents, engaged in a conspiracy to fix or inflate prices of aluminum and tantalum capacitors that restrained trade unreasonably and affected adversely the market for capacitors. Defendants affected commerce, including import commerce, substantially throughout the United States, proximately causing injury to Plaintiff and Class Members.

VIII. CLASS ACTION ALLEGATIONS

233. Plaintiff brings this action on behalf of itself and as a class action under Rule 23(a), (b)(2), (b)(3), and (c)(4) of the Federal Rules of Civil Procedure, seeking damages, equitable relief, and injunctive relief pursuant to California's antitrust and unfair competition laws and equitable and injunctive relief pursuant to Section 16 of the Clayton Act on behalf of the following class of indirect purchasers (the "Class")¹¹:

All persons and entities who, between January 1, 2005 and the present who directly purchased aluminum and/or tantalum capacitors in the United States from a capacitor distributor. Excluded from the Class are defendants, their parent companies, subsidiaries and affiliates, any co-conspirators, and any judges or justices assigned to hear any aspect of this action.

234. While Plaintiff does not know the exact number of the members of the Class, Plaintiff believes there are (at least) thousands of members in the Class.

235. Common questions of law and fact exist as to all members of the Class. This is particularly true given the nature of defendants' conspiracy, which was generally applicable to all members of the Class, thereby making appropriate relief with respect to the Class as a whole. Such common questions of law and fact include but are not limited to:

(a) Whether defendants and their co-conspirators combined and conspired among themselves to fix, raise, stabilize, or maintain the prices of aluminum and tantalum electrolytic capacitors sold in the United States;

(b) Whether defendants and their co-conspirators combined and conspired to reduce output of aluminum and tantalum electrolytic capacitors sold in the United States;

¹¹ Plaintiff reserves the right to refine and alter this class definition.

- 1 (c) The identity of the participants of the alleged conspiracy;
- 2 (d) The duration of the alleged conspiracy;
- 3 (e) The acts carried out by the defendants and their co-conspirators in
- 4 furtherance of the conspiracy;
- 5 (f) The acts carried out by defendants and their co-conspirators in furtherance of
- 6 the conspiracy;
- 7 (g) Whether the alleged conspiracy violated California's antitrust and unfair
- 8 competition laws;
- 9 (h) Whether the conduct of defendants and their co-conspirators, as alleged in
- 10 this Complaint, caused injury to the business or property of Plaintiff and the Class;
- 11 (i) The effect of the alleged conspiracy on the prices of aluminum and tantalum
- 12 electrolytic capacitors sold in the United States during the Class Period;
- 13 (j) Whether defendants and their co-conspirators concealed the conspiracy's
- 14 existence from Plaintiff and the Class;
- 15 (k) The appropriate injunctive and related equitable relief for the Nationwide
- 16 Class; and
- 17 (l) The appropriate class-wide measure of damages for the Damages class.

18 236. Plaintiff's claims are typical of the claims of the Class, and Plaintiff will fairly and
19 adequately protect the interests of the Class. Plaintiff and the Class are similarly affected by
20 defendants' wrongful conduct in that they paid inflated prices for capacitors manufactured and sold
21 by defendants, their divisions, subsidiaries or affiliates, or their co-conspirators.

22 237. Plaintiff's claims arise out of the same common course of conduct giving rise to the
23 claims of the Class. Plaintiff's interests are coincident with, and not antagonistic to, those of the
24 Class. Plaintiff is represented by counsel who are competent and experienced in the prosecution of
25 antitrust and class action litigation.

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238. The 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.

239. Class action treatment is a superior method for the fair and efficient adjudication of the controversy, in that, among other things, such treatment will permit a large number of similarly situated persons to prosecute their common claims in a single forum simultaneously, efficiently and without the unnecessary duplication of evidence, effort and expense that numerous individual actions would engender. The benefits of proceeding through the class mechanism, including providing injured persons or entities with a method for obtaining redress for claims that might not be practicable to pursue individually, substantially outweigh any difficulties that may arise in the management of this class action.

240. 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 the defendants.

IX. ANTITRUST INJURY

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

(a) Price competition has been restrained or eliminated with respect to aluminum and tantalum electrolytic capacitors;

(b) The prices of aluminum and tantalum electrolytic capacitors have been fixed, raised, maintained, or stabilized at artificially inflated levels;

(c) Indirect purchasers of aluminum and tantalum electrolytic capacitors have been deprived of free and open competition; and

(d) Indirect purchasers of aluminum and tantalum electrolytic capacitors, including Plaintiff, paid artificially inflated prices.

242. During the Class Period, Plaintiff and the Class paid supra-competitive prices for aluminum and tantalum electrolytic capacitors.

243. By reason of the alleged violations of the antitrust laws, Plaintiff and the Class have sustained injury to their businesses or property, having paid higher prices for capacitors than they would have paid in the absence of defendants' illegal contract, combination, or conspiracy, and as a result have suffered damages. This is an antitrust injury of the type that the antitrust laws were meant to punish and prevent.

X. ACTIVE CONCEALMENT

244. Plaintiff and the members of the Class had no knowledge of the combination or conspiracy alleged in this Complaint, or of facts sufficient to place them on inquiry notice of their claims, until news sources first reported in April 2014 that the DOJ was collaborating with NDRC on a joint probe into anticompetitive conduct among capacitor manufacturers. Prior to April 2014, no information in the public domain or available to the Plaintiff and the Class suggested that any defendant was involved in a criminal conspiracy to fix prices for capacitors.

245. In an effort to further conceal their conspiracy, defendants misrepresented market conditions to explain price changes and output reductions caused by extended lead times.

A. False Representations Regarding Raw Material Shortages

246. Defendants falsely attributed price hikes and production lead times to a shortage of certain raw materials needed to manufacture aluminum electrolytic capacitors. For example, in 2010, defendants Nichicon, Nippon Chemi-Con, and Panasonic released several public statements in which they claimed supply limitations and price quote adjustments were caused by shortages of aluminum foil and increasing costs of the requisite raw materials.

247. Such false representations are negated by industry reports and supportive data that reflect aluminum foil to be a widely available raw material and aluminum electrolytic capacitors to be among those products that are less susceptible to raw material price hikes.

248. Defendants falsely represented that price hikes and increased production lead times were the result of difficulties procuring tantalum, the raw material necessary in manufacturing electrolytic capacitors. Defendants represented to industry experts and analysts, as well as to consumers, that there were concerns with the supply of tantalum in 1997, 2000, 2008, 2011 and

2011, claiming that issues surrounding the purported closing of certain tantalum mines, the inability of certain tantalum mines to produce sufficient tantalum, and the inability to access sufficient tantalum due to the designation of tantalum as a “conflict mineral” under Section 1502 of the 2010 Dodd-Frank Wall Street Reform and Consumer Protection Act (“Dodd-Frank”) would affect defendants’ access to cheap tantalum, which thereafter would result in higher prices for tantalum electrolytic capacitors.

249. Such false representations are negated by industry and media reports that criticize the lack of transparency within the tantalum market where exclusive agreements and business arrangements between manufacturers and tantalum mining operations occur in conjunction with the desire of manufacturers to process raw materials in-house.

250. Moreover, these false representations are negated by another defendant, KEMET, who publicly noted, in its 2010 “Tantalum Market Update,” that the tantalum capacitor industry is running at or near capacity with increased lead times due to a “lack of investment in capacity over the last 10 years—a consequence of industry pricing pressures,” and explicitly claiming that it was “not the result of raw material availability.”

251. Plaintiff alleges, upon information and belief, that these explanations did not provide the whole story and helped conceal the illegal conspiracy entered into by the defendants to fix, stabilize, maintain and raise the price of aluminum and tantalum electrolytic capacitors to inflated, supra-competitive levels.

B. False Representations Regarding Production Delays

252. Defendants also issued several non-market related excuses for price hikes and output reductions, some of which included labor shortages and Asian weather shipping delays. Additionally, in 2011 to 2013, Defendants Hitachi, Nippon Chemi-Con, Nichicon, Rubycon, and Elna blamed capacitor production delays on the aftermath of the 2011 Tohoku earthquake and tsunami in eastern Japan. In 2011, defendant NEC TOKIN and non-defendant ROHM Co., Ltd. faulted flooding in Thailand for causing production delays.

1 253. Through their misleading, deceptive, false, and fraudulent statements, defendants
2 effectively concealed their unlawful control over the aluminum and tantalum electrolytic capacitor
3 markets which enabled them to manipulate supplies and pricing, thereby causing economic harm to
4 Plaintiff and the Class. The misrepresentations made by defendants regarding price changes and
5 extended production lead times were intended to lull Plaintiff and the Class into accepting the price
6 hikes and extended production lead times as a normal result of competitive and economic market
7 trends rather than the consequences of defendants' collusive acts. The public statements made by
8 defendants were designed to blatantly mislead Plaintiff and the Class into paying unjustifiably
9 higher prices for capacitors.

10 254. Defendants' misrepresentations for price changes and extended lead times were
11 pretextually false, deceptive, materially false or misleading, and served only to conceal defendants'
12 conspiracy and collusive activity from being realized by Plaintiff.

13 255. Because defendants kept their conspiracy secret until April 2014, Plaintiff and
14 members of the Class did not know before then that they were paying supra-competitive prices for
15 aluminum and tantalum electrolytic capacitors.

16 256. Defendants' anticompetitive conspiracy, by its very nature, was self-concealing.
17 Aluminum and tantalum electrolytic capacitors are not exempt from antitrust regulation, and thus,
18 before April 2014, Plaintiff reasonably considered the capacitors industry to be a competitive one.
19 Accordingly, a reasonable person under the circumstances would not have been alerted to begin to
20 investigate the legitimacy of defendants' capacitor prices before April 2014.

21 257. Plaintiff exercised reasonable diligence. Plaintiff and the Class could not have
22 discovered the alleged conspiracy at an earlier date by the exercise of reasonable diligence because
23 of the deceptive practices and techniques of secrecy employed by defendants and their co-
24 conspirators to conceal their combination.

25 258. Therefore, the running of any statute of limitations has been tolled for any claims
26 alleged by Plaintiff and the Class as a result of defendants' anticompetitive and unlawful conduct.

FIRST CLAIM FOR RELIEF
Violations of the Sherman Act, 15 U.S.C. § 1
(on behalf of Plaintiff and the Class Against All Defendants)

259. Plaintiff incorporates by reference the allegations in the preceding paragraphs.

260. Defendants and unnamed conspirators entered into and engaged in a contract, combination, or conspiracy in unreasonable restraint of trade in violation of Section 1 of the Sherman Act (15 U.S.C. § 1).

261. The acts done by each of the defendants as part of, and in furtherance of, their contract, combination, or conspiracy were authorized, ordered, or done by their officers, agents, employees, or representatives while actively engaged in the management of defendants' affairs.

262. From at least as early as January 2005, and continuing through the filing of this Complaint, the exact dates being unknown to Plaintiff, defendants and their co-conspirators entered into a continuing agreement, understanding and conspiracy in restraint of trade to artificially fix, raise, stabilize, and control prices for aluminum and tantalum electrolytic capacitors, thereby creating anticompetitive effects.

263. The anticompetitive acts were intentionally directed at the United States market for aluminum and tantalum electrolytic capacitors and had a substantial and foreseeable effect on interstate commerce by raising and fixing prices for aluminum and tantalum electrolytic capacitors throughout the United States.

264. The conspiratorial acts and combinations have caused unreasonable restraints in the market for aluminum and tantalum electrolytic capacitors.

265. As a result of defendants' unlawful conduct, Plaintiff and the Class have been harmed by being forced to pay inflated, supra-competitive prices for aluminum and tantalum electrolytic capacitors.

266. In formulating and carrying out the alleged agreement, understanding and conspiracy, defendants and their co-conspirators did those things that they combined and conspired to do, including but not limited to the acts, practices and course of conduct set forth herein.

267. Defendants' conspiracy had the following effects, among others:

1 (a) Price competition in the market for aluminum and tantalum electrolytic
2 capacitors has been restrained, suppressed, and/or eliminated in the United States;

3 (b) Prices for aluminum and tantalum electrolytic capacitors sold by defendants
4 and their co-conspirators have been fixed, raised, maintained, and stabilized at artificially high, non-
5 competitive levels throughout the United States; and

6 (c) Plaintiff and the Class have been deprived of the benefits of free and open
7 competition.

8 268. Plaintiff and the Class have been injured and will continue to be injured in their
9 business and property by paying more for aluminum and/or tantalum electrolytic capacitors
10 purchased indirectly from defendants and the co-conspirators than they would have paid and will
11 pay in the absence of the conspiracy.

12 269. The alleged contract, combination, or conspiracy is a per se violation of the federal
13 antitrust laws.

14 270. Plaintiff and the Class are entitled to an injunction pursuant to Section 16 of the
15 Clayton Act (15 U.S.C. § 26) against defendants, preventing and restraining the violations alleged
16 herein.

17 **SECOND CLAIM FOR RELIEF**
18 **Violations of California's Antitrust Law,**
19 **The Cartwright Act, Cal. Bus. & Prof. Code §§ 16720, *et seq.***
(on behalf of Plaintiff and the Class Against All Defendants)

20 271. Plaintiff incorporates by reference the allegations in the preceding paragraphs.

21 272. Defendants have entered into an unlawful agreement in restraint of trade in violation
22 of the California Business and Professions Code, §§ 16700, *et seq.*

23 273. During the Class Period, defendants and their co-conspirators entered into and
24 engaged in a continuing unlawful trust in restraint of trade and commerce as described above in
25 violation of Section 16720, California Business and Professions Code. Defendants, and each of
26 them, have acted in violation of Section 16720 to fix, raise, stabilize, and maintain prices of, and
27 allocate markets for, aluminum and tantalum electrolytic capacitors at supracompetitive levels.

1 274. The aforesaid violations of Section 16720, California Business and Professions
2 Code, consisted, without limitation, of a continuing unlawful trust and concert of action among the
3 defendants and their co-conspirators, the substantial terms of which were to fix, raise, maintain, and
4 stabilize the prices of, and to allocate markets for, aluminum and tantalum electrolytic capacitors.

5 275. For the purpose of forming and effectuating the unlawful trust, the defendants and
6 their co-conspirators have done those things which they combined and conspired to do, including
7 but not in any way limited to the acts, practices and course of conduct set forth above and the
8 following: (1) Fixing, raising, stabilizing, and pegging the price of aluminum and tantalum
9 electrolytic capacitors; and (2) Allocating among themselves the production of aluminum and
10 tantalum electrolytic capacitors.

11 276. The combination and conspiracy alleged herein has had, *inter alia*, the following
12 effects: (1) Price competition in the sale of aluminum and tantalum electrolytic capacitors has been
13 restrained, suppressed, and/or eliminated in the State of California; (2) Prices for aluminum and
14 tantalum electrolytic capacitors sold by defendants and their co-conspirators have been fixed,
15 raised, stabilized, and pegged at artificially high, non-competitive levels in the State of California
16 and throughout the United States; and (3) Those who purchased aluminum and tantalum electrolytic
17 capacitors indirectly from defendants and their co-conspirators have been deprived of the benefit of
18 free and open competition.

19 277. As a direct and proximate result of defendants' unlawful conduct, Plaintiff and
20 members of the Class have been injured in their business and property in that they paid more for
21 aluminum and tantalum electrolytic capacitors than they otherwise would have paid in the absence
22 of defendants' unlawful conduct. As a result of defendants' violation of Section 16720 of the
23 California Business and Professions Code, Plaintiff and members of the Class seek treble damages
24 and their cost of suit, including a reasonable attorney's fee, pursuant to Section 16750(a) of the
25 California Business and Professions Code.

THIRD CLAIM FOR RELIEF
Violations of California's Unfair Competition Law,
Cal. Bus. & Prof. Code §§ 17200, *et seq.*
(on behalf of Plaintiff and the Class Against All Defendants)

278. Plaintiff incorporates by reference the allegations in the preceding paragraphs.

279. Defendants have engaged in unfair competition or unfair, unconscionable, deceptive or fraudulent acts or practices in violation of California Business and Professions Code § 17200, *et seq.*

280. During the Class Period, defendants committed and continue to commit acts of unfair competition, as defined by Sections 17200, *et seq.* of the California Business and Professions Code, by engaging in the acts and practices specified above.

281. This claim is instituted pursuant to Sections 17203 and 17204 of the California Business and Professions Code, to obtain restitution from these defendants for acts, as alleged herein, that violated Section 17200 of the California Business and Professions Code, commonly known as the Unfair Competition Law.

282. The defendants' conduct as alleged herein violated Section 17200. The acts, omissions, misrepresentations, practices and non-disclosures of defendants, as alleged herein, constituted a common, continuous, and continuing course of conduct of unfair competition by means of unfair, unlawful, and/or fraudulent business acts or practices within the meaning of California Business and Professions Code, Section 17200, *et seq.*, including, but not limited to, the violations of Section 16720, *et seq.*, of the California Business and Professions Code, set forth above.

283. Defendants' acts, omissions, misrepresentations, practices, and non-disclosures, as described above, whether or not in violation of Section 16720, *et seq.*, of the California Business and Professions Code, and whether or not concerted or independent acts, are otherwise unfair, unconscionable, unlawful or fraudulent.

284. Defendants' acts or practices are unfair to consumers of aluminum and tantalum electrolytic capacitors in the State of California within the meaning of Section 17200, California Business and Professions Code.

285. Defendants' acts and practices are fraudulent or deceptive within the meaning of Section 17200 of the California Business and Professions Code.

286. The illegal conduct alleged herein is continuing and there is no indication that defendants will not continue such activity into the future.

287. The unlawful and unfair business practices of defendants, and each of them, as described above, have caused and continue to cause Plaintiff and the Class to pay supracompetitive and artificially-inflated prices for aluminum and tantalum electrolytic capacitors. Plaintiff and the Class suffered injury in fact and lost money or property as a result of such unfair competition.

288. The conduct of defendants as alleged in this Complaint violates Section 17200 of the California Business and Professions Code.

XI. REQUEST FOR RELIEF

WHEREFORE, Plaintiff **Toy-Knowlogy Inc.** demands judgment against defendants as follows:

1. The Court determine that this action may be maintained as a class action under Rule 23(a), (b)(2), and (b)(3) of the Federal Rules of Civil Procedure, appoint Plaintiff as Class Representative and its counsel of record as Class Counsel, and direct that notice of this action, as provided by Rule 23(c)(2) of the Federal Rules of Civil Procedure, be given to the Class;

2. The unlawful conduct, conspiracy or combination alleged herein be adjudged and decreed to be in violation of California's antitrust and unfair competition laws.

3. Plaintiff and the Class recover damages, to the maximum extent allowed under the Cartwright Act, and that a joint and several judgment in favor of Plaintiff and the members of the Class be entered against defendants in an amount to be trebled to the extent such laws permit;

4. Defendants, their affiliates, successors, transferees, assignees and other officers, directors, partners, agents and employees thereof, and all other persons acting or claiming to act on their behalf or in concert with them, be permanently enjoined and restrained from in any manner continuing, maintaining or renewing the conduct, conspiracy, or combination alleged herein, or

1 from entering into any other conspiracy or combination having a similar purpose or effect, and from
2 adopting or following any practice, plan, program, or device having a similar purpose or effect;

3 5. Plaintiff and the members of the Class be awarded pre- and post- judgment interest
4 as provided by law, and that such interest be awarded at the highest legal rate from and after the
5 date of service of this Complaint;

6 6. Plaintiff and the members of the Class recover their costs of suit, including
7 reasonable attorneys' fees, as provided by law; and

8 7. Plaintiff and the members of the Class have such other and further relief as the case
9 may require and the Court may deem just and proper.

10
11 Dated: October 17, 2014

Respectfully submitted,

12 /s/ Joseph W. Cotchett

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JURY DEMAND

Pursuant to Federal Rule of Civil Procedure 38(b), Plaintiff **Toy-Knowlogy Inc.** demands a jury trial of California's antitrust and unfair competition law claims and any other claims so triable asserted in this Complaint.

Dated: October 17, 2014

Respectfully submitted,

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