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Class*

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA

3226701 CANADA, INC.,
Individually and on Behalf of All
Others Similarly Situated

Plaintiffs,

v.

QUALCOMM, INC., STEVEN M.
MOLLENKOPF, DEREK K. ABERLE,
GEORGE S. DAVIS, VENKATA S.M.
RENDUCHINTALA, CRISTIANO R.
AMON, and TIM MCDONOUGH,

Defendants.

Case No. 15-CV-2678-MMA (WVG)

**SECOND AMENDED CLASS
ACTION COMPLAINT FOR
VIOLATIONS OF THE
FEDERAL SECURITIES LAWS**

Judge: Hon. Michael M. Anello

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TABLE OF ABBREVIATIONS

1	
2	CDMA Code Division Multiple Access
3	CES Consumer Electronics Show
4	CPTH Crashes Per Thousand Hours
5	CPU..... Central Processing Unit
6	CS date..... Customer Ship date
7	CSRR Customer Ship Readiness Review
8	FC..... Feature Complete
9	GHz..... Gigahertz
10	MSM Mobile Station Modem
11	MTBF..... Mean Time Between Failures
12	MTP Mobile Test Protocol
13	OEM..... Original Equipment Manufacturer
14	QCT Qualcomm CDMA Technologies
15	QTL..... Qualcomm Technology Licensing
16	SoC..... System on a Chip
17	SoD Silicon on Dock
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1 Court-appointed Lead Plaintiff the Public Employees Retirement System of
2 Mississippi ("Mississippi"), by and through its undersigned counsel, files this
3 Second Amended Class Action Complaint for Violations of the Federal Securities
4 Laws asserting claims individually and on behalf of all individuals or entities that
5 purchased or otherwise acquired the publicly traded common stock of Qualcomm
6 between November 19, 2014 and July 22, 2015, inclusive (the "Class Period"),
7 and were damaged thereby, against Qualcomm, Incorporated ("Qualcomm" or the
8 "Company") and Steven M. Mollenkopf, Derek K. Aberle, Venkata S.M.
9 Renduchintala, Christiano Amon, and Tim McDonough (collectively, the
10 "Individual Defendants"; together with Qualcomm, the "Defendants"). Lead
11 Plaintiff alleges the following upon information and belief, except as to those
12 allegations concerning Lead Plaintiff, which are alleged upon personal
13 knowledge.

14 Lead Plaintiff's information and belief concerning matters other than itself
15 and its own acts are based upon, among other things, a review and analysis of:
16 reports filed by Qualcomm with the U.S. Securities and Exchange Commission
17 ("SEC"); press releases and other public statements issued by Qualcomm and the
18 Individual Defendants; securities analysts' reports about Qualcomm; media and
19 news reports related to Qualcomm; data and other information concerning
20 Qualcomm securities; other publicly available information concerning the
21 Company and the Individual Defendants; an investigation conducted by and
22 through Lead Plaintiff's attorneys and their investigators, which included
23 interviews of numerous former employees of Qualcomm; and consultation of
24 Professor Scott Thompson ("Thompson"), an industry consulting expert in
25 electrical engineering, computer science and the manufacturing of silicon
26 semiconductors. Lead Plaintiff believes that substantial additional evidentiary
27
28

support will exist for the allegations set forth herein after a reasonable opportunity for discovery.

I. NATURE OF THE ACTION

1. This action arises from Defendants’ misrepresentations and omissions concerning Qualcomm’s premium-tier microprocessor—the “Snapdragon 810” (“Snapdragon 810” or “the 810”)—from November 19, 2014 through July 22, 2015 (the “Class Period”).

2. Qualcomm launched the Snapdragon 810 in April 2014 to much hype and fanfare, and touted the chip as its “highest performing platform to date” that would “enable an exceptional overall user experience with seamless connectivity and industry-leading power efficiency for flagship smartphones and tablets.” Based on Defendants’ representations concerning the purported performance and functionality of the Snapdragon 810, the financial media hailed the chip as “the next step in Qualcomm’s dominance of the high-end smartphone market” that would purportedly drive growth in Qualcomm’s chip business in 2015 and beyond.

3. Defendants’ bullish statements regarding the 810 continued throughout the Class Period. Specifically, Defendants: (1) boasted that the 810 was being universally accepted in key OEM¹ smartphones; and (2) when reports emerged that the 810 suffered from debilitating thermal issues, vehemently denied the reports, and praised the performance and functionality of the 810. These statements were material to investors, as the Snapdragon 810 was Qualcomm’s flagship premium-tier microchip in its highly lucrative Qualcomm

¹ An original equipment manufacturer (“OEM”) is a company that, as relevant here, manufactures the final mobile device product, and includes companies such as Samsung and LG.

1 CDMA Technologies (“QCT”) business—a segment accounting for the vast
2 majority (70% in 2014) of the Company’s overall revenues.

3 4. Unbeknownst to investors during the Class Period, however,
4 Defendants knew, but failed to disclose, that the Snapdragon 810 was plagued
5 with operational problems from its inception in 2014 through its commercial
6 launch and distribution in 2015. Specifically, the 810 suffered from severe and
7 highly abnormal overheating problems² that fundamentally compromised its
8 performance and functionality, caused smartphones that incorporated it to suffer,
9 and ultimately led 810-powered phone sales to plummet.

10 5. The operational problems afflicting the 810 originated from the
11 Company’s rash decision to alter Qualcomm’s usual production and testing
12 methodology in direct response to competitive pressures caused by Apple’s
13 sudden announcement of a 64-bit processor in its iPhone 5. Specifically,
14 Qualcomm tried to retrofit an “off-the-shelf” CPU rather than customize it as it
15 had done with all other Snapdragon chips since 2011. Compounding these issues
16 even further, Defendants promised Qualcomm’s most important customer—
17 Samsung—that the Company would **accelerate** significantly the usual timeline
18 for development, testing, and ultimate delivery of the 810 chip for incorporation
19 in Samsung’s flagship smartphone, the Galaxy S6. The accelerated timeline and
20 new 64-bit, non-customized architecture materially impacted the chip’s overall
21 performance and functionality.

22 6. Specifically, the 810: (1) suffered from debilitating overheating
23 throughout Qualcomm’s development and testing of the 810 in 2014; (2) was not
24 fixed prior to the launch of 810-powered smartphones in early 2015; and (3)

26 ² The terms “thermal” problems and “overheating” problems are used
27 interchangeably herein, and refer to the excessive overheating of silicon
28 semiconductors and processors.

1 caused the smartphones it powered to overheat, throttle to a lower speed, and
2 underperform throughout 2015.

3 7. As detailed below, all of the testing data from March through
4 December 2014, which was received and reviewed by Defendants, demonstrated
5 that the 810 exhibited debilitating and abnormal overheating. Multiple former
6 Qualcomm employees independently recall that the 810 suffered from abnormal
7 and unremedied thermal issues, which affected the performance, stability, and
8 power consumption of devices incorporating the chip. Daily and weekly testing
9 reports and presentations made to management at all times between March and
10 December 2014 universally demonstrated that the 810 failed testing benchmarks.

11 8. Specifically, the 810 caused devices to exhibit abnormally high
12 “Crashes Per Thousand Hours” (“CPTH”) and abnormally low “Mean Time
13 Between Failures” (“MTBF”). As a result, for example, Qualcomm’s so-called
14 Mobile Test Protocol devices in MTP device farms that incorporated the 810
15 crashed up to 1,000 times per day. The crashes from overheating were so
16 prevalent and pervasive that Qualcomm separately isolated them and reported
17 them in a separate line item to management in regular written reports, including
18 weekly Product Development Test Reports. In fact, one former employee who
19 was responsible for collecting and circulating 810 testing data on a weekly basis,
20 specifically reported that the data from March through December 2014
21 showed that the 810 overheated and was never fixed prior to commercial launch
22 in January 2015. Defendants were kept apprised of these issues every step of the
23 way by virtue of frequent and regular meetings, written and oral reports, and their
24 hands-on involvement in the project.

25 9. Similarly, the 810 caused OEM testing devices to universally
26 overheat. The testing data provided to Defendants by OEMs and Defendants’
27 own testing results beginning in mid-2014 demonstrated, in every instance, that
28

1 the overheating was not caused by the OEMs' devices. Accordingly, from mid-
2 2014 through 2015, Qualcomm directed substantial resources to attempting to
3 resolve the overheating issues and to salvage its relationship with these OEMs.
4 Qualcomm's most important OEM customer, Samsung, learned and informed
5 Defendants that the 810 overheated during testing it conducted in late summer
6 2014. Unbeknownst to investors, this overheating caused Samsung to drop the
7 chip altogether from, and use its own internally produced chip in, its forthcoming
8 Galaxy S6 by no later than October 2014.

9 10. This undisclosed fact was critical for several reasons. First,
10 Samsung had used a Snapdragon processor in each of its flagship smartphones
11 since 2011. As such, the market expected Samsung to incorporate the 810 in the
12 Galaxy S6. For example, the *International Business Times* reported that the
13 Galaxy S6 was "expected to boast Qualcomm's ... Snapdragon 810 series Octo-
14 core CPU." Second, the loss of Snapdragon 810 product share in the Galaxy S6
15 cost the Company an estimated \$1.3 billion or more in potential revenues from
16 millions of Galaxy S6 phones, and when it was finally disclosed, raised questions
17 about the functionality of the Snapdragon 810 and its ability to drive overall
18 profits in Qualcomm's all-important QCT segment.

19 11. The overheating issues were not fixed prior to Qualcomm's mass-
20 production and distribution of the 810 to OEMs, and the commercial launch of
21 the first 810-powered phone in January 2015. For example, as detailed below,
22 multiple former employees independently recalled that Qualcomm mass-produced
23 and delivered the 810 to LG in January 2015 for its G Flex 2 smartphone without
24 fixing it.

25 12. As detailed below, OEMs like LG had no real choice but to use the
26 overheating 810 in their premium-tier flagship smartphones. Due to Qualcomm's
27 market leadership position and rush production of a 64-bit chip, the 810 was
28

1 effectively the only 64-bit chip option available to OEMs who were eager to
2 release the most powerful smartphones available to the market. Furthermore,
3 OEMs other than Samsung did not have the ability to create and use their own
4 SoCs. Finally, OEMs were obligated to pay Qualcomm licensing fees for other
5 technology embedded in their smartphones and received a financial benefit by
6 incorporating the 810 as well. This unfortunate reality forced many OEMs to
7 incorporate the 810 in their smartphones and try to work around the 810's
8 inherent propensity to overheat.

9 13. Defendants deliberately and recklessly concealed the 810's thermal
10 issues and the loss of Samsung's business. For example, in the face of market
11 reports that Samsung's Galaxy S6 was "expected to boast Qualcomm's ...
12 Snapdragon 810 series Octo-core CPU," the Company represented that OEM
13 incorporation of the 810 was an "important metric" for Qualcomm and that
14 "[m]any of the flagship smartphones released next year are expected to be built
15 around Qualcomm Snapdragon 810 processors." Analysts interpreted
16 Defendants' representation as confirmation that the 810 would power the S6.

17 14. On January 20, 2015, however, reports of rumors began to surface
18 suggesting that Samsung might drop the Snapdragon 810 from its S6 due to
19 overheating problems. Although a few analysts discussed the rumors and the
20 initial partial disclosure caused Qualcomm's stock price to decline on the news,
21 the validity of the report was not confirmed.

22 15. Eight days later, on January 28, 2015, Qualcomm confirmed the
23 rumor, disclosing that it was significantly lowering its outlook for QCT "largely
24 driven by the effects of," among other things, "[e]xpectations that **our**
25 **Snapdragon 810 processor will not be in the upcoming design cycle of a large**
26 **customer's flagship device.**" Analysts uniformly determined that the "large
27 customer" was Samsung and that the "flagship device" was the Galaxy S6.
28

1 Following this second partial disclosure of adverse news, the Company's stock
2 price plummeted over 10%, wiping out billions of dollars in market capitalization
3 in a single trading day and causing significant damage to Qualcomm investors.
4 Notably, Samsung returned to Qualcomm and used the 810's successor, the
5 Snapdragon 820, in the Galaxy S7 in 2016 because the 820 addressed the
6 overheating issues that plagued the 810.

7 16. Despite these partial disclosures of adverse news relating to
8 Snapdragon 810 in January 2015, Qualcomm's stock price remained artificially
9 inflated as Defendants issued a continuous and steady barrage of false
10 representations, omissions, and deceptive denials regarding the 810's systemic
11 overheating problems and the true reasons for Samsung's rejection of the chip for
12 its Galaxy S6 smartphone.

13 17. For example, without even mentioning the 810's overheating
14 problems, Defendants falsely stated that the Samsung loss was an "isolated" event
15 limited to "one account" and the **"Snapdragon 810 is performing well."**

16 18. Even when analysts specifically pressed Defendants during the
17 Company's January 2015 conference call to explain the "heart of the 810 issue"
18 and to confirm whether the rumored overheating problems were cause for concern
19 or had anything to do with Samsung's decision to drop the 810, Defendants
20 continued to affirmatively mislead investors: **"On the 810, I'll be very clear, this
21 device is working the way that we expected to work."** Analysts confirmed that
22 "[m]anagement noted on the call that the [Samsung] loss was likely not due to the
23 810 overheating, but rather the lack of differentiation with their application
24 processor."

25 19. Throughout the spring and early summer of 2015, Defendants'
26 misrepresentations and omissions concerning the 810 became even bolder and
27 more aggressive. For example, in the wake of what it self-servingly described as
28

1 “false rumors” of overheating problems, Defendants doubled down on their
 2 falsehoods, stating that “[t]he rumors are rubbish, there was not an overheating
 3 problem with the Snapdragon 810 in commercial devices...” and “[t]he
 4 Snapdragon 810 processor is *performing as expected and we have not observed*
 5 *any abnormal thermal issues.*” The Company’s recurrent false and vigorous
 6 denials to investors were unequivocal and overwhelmed any rumors of
 7 overheating: “[c]ategorically, we don’t see any problem with the chip.”

8 20. Indeed, to further conceal and refute the existence of Snapdragon
 9 810 problems, Defendants went so far as to issue a specific Qualcomm press
 10 release entitled “Snapdragon 810 processor: cooler than ever,” that falsely
 11 bragged about the *lack* of heat issues in the 810: “[a] cooler smartphone means a
 12 better performing smartphone....[i]f you want the best of both worlds, higher
 13 performance with lower power, than you want a Snapdragon 810 powered
 14 smartphone.” The Company made similarly false statements during multiple
 15 investor conference calls, stating “[n]ot only is the Snapdragon 810 processor
 16 *designed to deliver more performance and better experiences, but it’s also*
 17 *engineered to use less power and remain cooler.*”

18 21. Despite these unequivocal denials of overheating, *every major OEM*
 19 *smartphone that incorporated the 810 during the Class Period overheated.* For
 20 example and as detailed below:

- 21 • **LG G Flex 2** – Immediately after the G Flex 2’s release in January
 22 2015, users began complaining that their phones were operating
 23 slowly and resetting, and independent testing demonstrated that
 overheating from the 810 caused the G Flex 2 to throttle down to its
 minimum speed in just 60 seconds.
- 24 • **Sony Xperia 3+, 4 and 5** – Sony contacted Qualcomm as early as
 25 December 2014 to report thermal and power consumption issues
 26 with the 810 in the Xperia Z4 device and reports surfaced that Sony
 27 was working to “dissipate the arguable significant amount of heat
 28 that the Snapdragon 810 generates”; the Z4 became so hot—reaching
 temperatures as high as 154 degrees Fahrenheit—that a Japanese
 carrier issued an overheating warning label on the device; the Xperia
 Z3+ was also reported to have “significant overheating problems”;

and despite taking extra precautions, reports emerged that the later generation Xperia Z5 and Z5 Compact were also overheating.

- **Xiaomi Mi Note Pro** – While initially announced to be released in March 2015, the Mi Note Pro was not released until May 2015 so that, reportedly, Xiaomi could attempt to address the overheating caused by the 810; and Xiaomi applied for five different thermal patents to resolve the overheating issues, but reports of the 810’s overheating nonetheless surfaced the very day it was released to the market.
- **HTC One M9** – In March 2015, the actual M9 that was on display at the Mobile World Congress overheated and shutdown; articles emerged with independent benchmark testing demonstrating that the M9 reached temperatures of more than 130 degrees, which was “painful to the touch”; technology reporters noted, “the One M9 runs insanely hot in comparison to other devices running the same exact app”; and the overheating caused “the 810 to throttle so quickly that old Snapdragon processors outperformed the 810.”
- **ZTE Nubia Z9 Max and Axon Pro** –Almost immediately after their respective releases, both phones were reported to overheat; the Zubia Z9 Max was said to “overheat[] like crazy” and described as “alarmingly hot”; and the Axon Pro was reported to get “unusually warm just from being used lightly” and “hot when taking photos.”
- **OnePlus’ OnePlus 2** – The release of the OnePlus2 was delayed for several months so that One Plus could admittedly “take the necessary precautions” to prevent overheating caused by the 810; but, despite the “necessary precautions”—including working with Qualcomm engineers, attempting to dissipate excess heat, and decreasing the speed of its CPU—the OnePlus 2 still was reported to overheat.

22. Qualcomm also quietly issued an updated version of the 810 to address its thermal issues, further supporting that the 810 was in fact overheating during the Class Period. In fact, OnePlus issued a press release stating, “[a]lthough there have been reports that the 810 runs warmer than its predecessors, we assure you that we have taken all the necessary precautions and beyond to prevent this from occurring in the 2. ***We worked very closely with Qualcomm’s engineers to integrate an improved version of the chipset (v2.1) in the OnePlus 2, and fine-tuned both hardware and software.***”

23. Additional evidence surfaced demonstrating that the commercially-released 810 overheated. For example, Qualcomm offered to issue Samsung an updated chip to retain Samsung’s S6 business, but chose not to for fear of legal

1 repercussions from OEMs, like LG, that had already incorporated the 810 in their
2 flagship smartphones. Qualcomm also released the 810's successor chip, the
3 Snapdragon 820, **one full year ahead of schedule** to replace the 810 due to its
4 unrelenting overheating problems.

5 24. On July 22, 2015, the last day of the Class Period, Qualcomm
6 disclosed that, as a result of the problems with the Snapdragon 810 and the
7 resulting loss of share in the Samsung Galaxy S6, the Company's QCT segment
8 would again miss sales and revenue expectations by a wide margin, and that as a
9 result of the 810's failures, QCT's competitive outlook for the remainder of the
10 year had been significantly weakened. The disclosures revealed a direct
11 connection between the known 810 issues concealed and/or obscured by
12 Defendants throughout Class Period and the resulting adverse financial results
13 and guidance—driven by the 810's negative impact on the premium-tier. For
14 example, the Company admitted that **"in terms of the 810, I think [it's] probably**
15 **the biggest single impact** as we look at the year... again, much like the fourth
16 quarter, **it's almost entirely attributable to changes in the premium-tier and**
17 **certainly, the socket loss³ at a major vertical customer [Samsung]."** Analysts
18 also traced the adverse news to the 810 issues concealed by Defendants: "we
19 suspect that the performance issues that have plagued the S810-based phones
20 have also been a factor, as we believe a number of OEMs have delayed launches
21 as they work through some issues."

22 25. Upon this final disclosure, Qualcomm's stock price declined another
23 3.75% to close at \$61.78 per share—approximately 20% lower than the Class
24 Period high of \$75.72—causing further damages to investors. Qualcomm's stock
25 price now hovers around \$58 per share.

26
27 ³ "Socket loss" refers to the loss of Qualcomm's share of chips that would be
28 included in an OEM's handset, here the Samsung Galaxy S6.

II. JURISDICTION AND VENUE

26. The claims asserted herein arise under Sections 10(b) and 20(a) of the Securities Exchange Act of 1934 (the “Exchange Act”), 15 U.S.C. §§ 78j(b) and 78t(a), and the rules and regulations promulgated thereunder by the SEC, including Rule 10b-5, 17 C.F.R. § 240.10b-5.

27. This Court has jurisdiction over the subject matter of this action pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa, and 28 U.S.C. § 1331.

28. Venue is proper in this District pursuant to Section 27 of the Exchange Act, 15 U.S.C. § 78aa, and 28 U.S.C. § 1391(b). The Company maintains its principal place of business in this District, and did so throughout the Class Period, and many of the acts that constitute the violations of law complained of herein, including dissemination of materially false and misleading information to the investing public, occurred in or were issued from this District.

29. In connection with the acts alleged in this Complaint, Qualcomm and the Individual Defendants, directly or indirectly, used the means and instrumentalities of interstate commerce, including, but not limited to, the mails, interstate telephone communications, and the facilities of the national securities markets.

III. PARTIES

A. Lead Plaintiff

30. Lead Plaintiff Mississippi Public Employees Retirement System was established in 1952 and provides retirement and related benefits for all Mississippi state and public education employees, officers of the Mississippi Highway Safety Patrol, and certain elected officials, among others. As of June 30, 2016, Mississippi oversaw approximately \$24.6 billion in assets on behalf of more than 399,000 members and their beneficiaries. Mississippi purchased

1 Qualcomm common stock during the Class Period, as set forth in the
2 certification⁴ previously filed with the Court, and suffered damages as a result of
3 the federal securities law violations alleged herein. By order dated February 19,
4 2016, the Court appointed Mississippi as the Lead Plaintiff in this action.

5 **B. Defendants**

6 31. Defendant Qualcomm is a corporation organized under the laws of
7 the State of Delaware, and maintains its principal executive offices at 5775
8 Morehouse Drive, San Diego, California. Founded in 1985, Qualcomm develops,
9 designs, licenses, and markets worldwide its digital communications products and
10 services, primarily through its two main business segments; Qualcomm CDMA
11 Technologies (“QCT”) and Qualcomm Technology Licensing (“QTL”), described
12 in further detail in ¶¶ 51-54, *infra*. At all relevant times, Qualcomm common
13 stock was traded under the ticker symbol “QCOM” on the NASDAQ Stock
14 Market (“NASDAQ”), which is an efficient market.

15 32. Defendant Steven M. Mollenkopf (“Mollenkopf”) has served as the
16 Chief Executive Officer (“CEO”) of Qualcomm since March 2014, and as a
17 member of the Company’s Board of Directors since December 2013. He served
18 as Qualcomm’s President and Chief Operating Officer (“COO”) from November
19 2011 through March 2014. During the Class Period, he certified Qualcomm’s
20 periodic financial reports filed with the SEC and spoke with investors and
21 securities analysts regarding the Company on a regular basis.

22 33. Mollenkopf has a B.S. in Electrical Engineering from Virginia Tech
23 and an M.S. in Electrical Engineering from the University of Michigan. He
24 began his career at Qualcomm in 1994 as an engineer and held a number of
25 technical positions within the Company before being appointed CEO. In his
26

27 ⁴ An updated certification from Mississippi is attached as Exhibit A hereto.
28

1 previous role as COO, Mollenkopf led the Company's chipset business (QCT
2 segment) while the Snapdragon 810 was in its initial development stages.
3 Accordingly, he was in a position to know, and did know, about the details of that
4 product's testing and marketing to Qualcomm's primary OEM customers, and
5 ultimate commercial launch, including the unprecedented overheating problems.

6 34. Defendant Derek K. Aberle ("Aberle") has served as the President of
7 Qualcomm since March 2014. During the Class Period, he spoke to investors and
8 securities analysts regarding the Company on a regular basis. He joined
9 Qualcomm in December 2000, and prior to becoming President of Qualcomm he
10 held numerous executive positions in Qualcomm's QTL segment, including
11 Executive Vice President and Group President of Qualcomm between November
12 2011 and March 2014. As a member of the Company's Executive Committee,
13 Aberle helps to "drive Qualcomm's overall global strategy." Accordingly, he was
14 in a position to know, and did know, about the details of the 810's testing and
15 marketing to Qualcomm's primary OEM customers, and ultimate commercial
16 launch, including the unprecedented overheating problems.

17 35. Defendant Venkata S.M. "Murthy" Renduchintala ("Renduchintala")
18 was, at all relevant times an Executive Vice President of Qualcomm, and
19 Co-President of the Company's QCT division. He holds a Doctorate in Digital
20 Communications and an M.B.A. from the University of Bradford in the United
21 Kingdom. Prior to joining Qualcomm, he served as Vice President and General
22 Manager of the Cellular Systems Division at Skyworks Solutions, Inc. He joined
23 Qualcomm in 2004 and served as Co-President of Mobile and Computing
24 Products at Qualcomm from June 2012 through October 2012. As discussed in
25 detail below, Renduchintala was in a position to know, and did know, about the
26 810's testing and marketing to Qualcomm's primary OEM customers, and
27 ultimate commercial launch, including the unprecedented overheating problems.

1 36. Defendant Cristiano R. Amon (“Amon”) currently serves as the
2 Executive Vice President of Qualcomm Technologies, Inc., and is the President
3 of QCT. He is also a member of the Company’s executive committee. During
4 the Class Period, Amon spoke to investors and securities analysts regarding the
5 Company on a regular basis.

6 37. Amon was appointed Co-President of QCT (with Renduchintala) on
7 July 27, 2012, and in that role was responsible for the oversight of activities
8 related to Qualcomm’s semiconductor business. He holds a Bachelor’s degree in
9 electrical Engineering from Universidade Estadual de Campinas in São Paulo,
10 Brazil. Amon joined Qualcomm in 1995 as an engineer after working at other
11 telecommunications firms such as Vésper, NEC, Ericsson and Velocom. Prior to
12 becoming Co-President of QCT, he was Qualcomm’s Senior Vice President of
13 Product Management with QCT where he was responsible for managing the
14 Company’s wireless chipset portfolio. In a Qualcomm press release announcing
15 Amon’s promotion to head of QCT, Mollenkopf highlighted Amon’s importance
16 to QCT stating “Cristiano has been managing QCT’s product roadmap since
17 2008—a period of unprecedented growth and innovation for Qualcomm and the
18 industry.” As discussed in detail below, Amon was in a position to know, and did
19 know, about the 810’s testing and marketing to Qualcomm’s primary OEM
20 customers, and ultimate commercial launch, including the unprecedented
21 overheating problems.

22 38. Defendant Tim McDonough (“McDonough”) currently serves as a
23 Senior Vice President, Global Marketing at Qualcomm. From September 2010
24 through October 2015, including at all times during the Class Period, McDonough
25 served as Vice President of Worldwide Marketing for Qualcomm. McDonough
26 describes his role (on his LinkedIn profile) as a chief marketing officer for
27 Qualcomm’s QCT segment responsible for “product marketing, branding, public
28

1 relations, events, online marketing, and analyst relations” for the Company’s
2 Snapdragon line of mobile processors. During the Class Period, McDonough
3 spoke regularly on behalf of the Company with investors and securities analysts.
4 McDonough joined Qualcomm in 2010 after having served in a managerial role
5 with Microsoft. As discussed in detail below, McDonough was in a position to
6 know, and did know, about the 810’s testing and marketing to Qualcomm’s
7 primary OEM customers, and ultimate commercial launch, including the
8 unprecedented overheating problems.

9 **C. Relevant Non-Parties**

10 **1. Confidential Witnesses**

11 39. CW 1 is a former Qualcomm employee and software engineer who
12 worked for the Company from 2004 through November 2015. CW 1 worked in
13 various capacities for more than ten years, including as a Technical Account
14 Manager, which put him in direct contact with product engineering, sales, and
15 marketing. In this role he also worked in Qualcomm’s Digital Signal Processor
16 (“DSP”) program, which worked on the Snapdragon 810. Accordingly, CW 1
17 was in a position to know, and did know, about the problems with the 810, as well
18 as the Company’s overall relationships with its largest OEM customers, including
19 Samsung. CW 1 reported to Kuntal Sampat, Qualcomm’s Director of
20 Engineering, and Steve Brightfield, the Director of Product Management.

21 40. CW 2 is a former Qualcomm Senior Staff Engineer in the
22 Company’s San Diego headquarters. He worked for Qualcomm for more than
23 eight years, including from 2006 through late 2015, and interacted regularly with
24 OEMs Samsung, LG, and Sony to coordinate the launch of the Snapdragon 810 in
25 their respective product offerings. During his work on the Snapdragon 810
26 project, CW 2 reported to the Project Engineer, Rajeev Pal (“Pal”), who reported
27 to Renduchintala. In connection with his work with Samsung, LG, and Sony, CW
28

1 2 was responsible for the release of the Snapdragon 810 to commercial stage
2 production for those OEMs, and met with those clients on a weekly basis to
3 discuss their respective commercial launches of products incorporating the
4 Snapdragon 810. Thus, CW 2 was in a position to know, and did know, about the
5 testing and development of the Snapdragon 810, as well as the status of the
6 Company's discussions with OEMs to whom it was negotiating the sale and use
7 of the Snapdragon 810, and ultimate commercial launch of the 810.

8 41. CW 3 is a former Senior Staff Engineer in the Company's San Diego
9 headquarters. CW 3 worked at Qualcomm in various engineering capacities for
10 more than 20 years from the early 1990s through late 2015. Before and during
11 the Class Period, CW 3 was responsible for assessing product test needs for
12 upcoming chipsets, including test planning, special test requirements, and IT
13 resource planning. In this capacity, CW 3's team was responsible for conducting
14 thermal testing on the Snapdragon 810 chipset and was also responsible for
15 aggregating weekly test results and reports for the 810 from members of the
16 Product Test Group and submitting those test results to Pal (who then sent them
17 to Renduchintala), and others. CW 3 reported to the Head of Product Testing
18 Syed Ahsan, who reported to Vice President of Engineering, Rashmi Char. Char
19 reported to Tony Schwartz, Qualcomm's SVP of Engineering in the QCT
20 segment, who in turn reported to James "Jim" Thompson, who in turn reported to
21 Renduchintala. In this position, CW 3 was in a position to know, and did know,
22 about testing of all QCT chipsets (specifically including the 810), including
23 allocation of resources (both human and financial) necessary for all stages of
24 testing, and comparative performance of Qualcomm chipsets based on testing
25 results.

26 42. CW 4 is a former Qualcomm Technical Director of Engineering who
27 worked in the Company's San Diego headquarters. CW 4 worked at the
28

1 Company in various engineering roles for more than 15 years, including from
2 2000 through early 2016. CW 4 was the lead engineer responsible for the Linux
3 Kernel platform on QCT chipsets, including the 810. CW 4 reported to VP Neesh
4 Pgraol, who reported to SVP Torrey Harmon. SVP Harmon reported to James
5 “Jim” Thompson, who in turn reported to Renduchintala. In this position, CW 4
6 was in a position to know, and did know, about testing of all QCT chipsets
7 including the testing and development of the Snapdragon 810, and its
8 performance.

9 43. CW 5 is a former Customer Support Engineer who worked for the
10 Company in Tokyo, Japan from 2013 until late 2015. CW 5 was responsible for
11 communicating with and supporting Japanese OEMs, including Sony, Sharp and
12 Fujitsu. CW 5 reported to Harry Shibata, a Staff Engineer, who in turn reported
13 to Michi Yamaoka, a Director in Customer Support Engineering. In this role,
14 CW 5 personally communicated with Sony, Sharp and Fujitsu regarding thermal
15 and power consumption issues with the 810 between December 2014 and April
16 2015. CW 5 personally communicated customer complaints regarding the 810 to
17 Customer Support Engineers at the Company’s San Diego Headquarters,
18 including specifically an individual with the first name “Gagan,” who was
19 responsible for regional customer support teams, including those in Japan. CW 5
20 further communicated with Customer Support Engineers in San Diego regarding
21 potential solutions for the 810’s thermal and battery consumption issues. CW 5
22 was therefore in a position to know, and did know, about the problems the 810
23 experienced before and after its commercial launch, as well as the Company’s
24 overall relationships with some of its largest OEM customers, including Sony.

25 44. CW 6 is a former Vice President of Engineering with management-
26 level responsibility who worked for the Company for over 10 years, including
27 from 2000 through the summer of 2015, in its San Diego headquarters. In this
28

1 role, CW 6 oversaw a team that worked with OEMs, including Samsung, Sony,
2 LG, HTC and Xiaomi, to implement Qualcomm chipsets, including the 810, in
3 their devices. More specifically, CW 6 and CW 6's team provided technical
4 support regarding, and guidance with respect to implementation of, Qualcomm
5 hardware and software. CW 6 explained that during CW 6's time at Qualcomm,
6 there was a constant interplay between heat, power, and performance of
7 Qualcomm's SoCs. CW 6 further stated Qualcomm and its customers would
8 work to remedy the heat versus performance issues. CW6 and CW6's team
9 worked specifically on the 810 during the Class Period. CW 6 was therefore in a
10 position to know, and did know, about the problems the 810 experienced after its
11 commercial launch, as well as the Company's overall relationships with some of
12 its largest OEM customers, including Samsung, Sony, LG, HTC and Xiaomi.

13 45. CW 7 was employed by Sony as a Senior Software Engineer, testing
14 and verifying interface protocols for Sony Mobile Communications in San
15 Francisco, CA during a period which included 2013 through early 2016. CW 7
16 worked specifically on Sony's devices for sale by Verizon, including phones
17 within the Xperia series. CW 7's responsibilities included verifying, testing, and
18 debugging the log files for these devices. CW 7 confirmed that Sony was "very
19 concerned" about the 810's overheating issue. CW 7 was therefore in a position
20 to know, and did know, about the problems the 810 experienced after its
21 commercial launch, specifically with respect to Sony's Xperia devices.

22 46. CW 8 was a former Senior Engineer who worked for the Company
23 in its San Diego headquarters during a period that included 2010 through late
24 2015. CW 8 worked in the Applications Processor Test Unit ("APT Unit") and
25 reported to Technical Director, Sunil Kumar. The APT Unit was part of the
26 Application Processor Subsystems Software Division. CW 8 was responsible for
27 testing audio, video, and media applications on Qualcomm processors for OEMs
28

1 such as LG. CW 8 worked on the Snapdragon 800 and 805 processors, and
 2 interacted with colleagues from the APT Unit who worked on the 810. CW 8 was
 3 therefore in a position to know, and did know, about the problems the 810
 4 experienced immediately prior to and following its commercial launch.

5 47. CW 9 was a Director of Engineering at the Company's San Diego
 6 headquarters from 2013 through the end of 2015. CW 9 spoke to members of the
 7 Linux Kernel team for the Snapdragon 810 about the thermal issues that the 810
 8 was experiencing. CW 9 was therefore in a position to know, and did know,
 9 about the problems the 810 experienced prior to and following its commercial
 10 launch.

11 2. Other Relevant Non-Parties

12 48. Samsung Electronics Co., Ltd. ("Samsung") is a multinational
 13 electronics company headquartered in Suwon, South Korea. Samsung designs,
 14 manufactures and sells, among other things, consumer electronics, such as
 15 smartphones, and electronic components, such as silicon semiconductors
 16 (including microprocessors like the Snapdragon 810).⁵ Thus, in its capacity as an
 17 OEM, it was a Qualcomm customer and purchased Snapdragon processors; and in
 18 its capacity as a chip designer and manufacturer, it was a Qualcomm competitor.
 19 Throughout the Class Period, Samsung designed, marketed, and sold to
 20 consumers the most popular premium-tier smartphones, including the Galaxy S
 21 series. Sales of Samsung's mobile devices made up approximately 25% and 22%
 22 of global market share in 2014 and 2015, respectively.

23 49. Rajeev Pal was the Project Engineer for the Snapdragon 810. In this
 24 role, he was the Qualcomm employee to whom CW 2 reported and to whom
 25

26 ⁵ The four primary companies that manufacture silicon semiconductors are:
 27 Samsung, Taiwan Semiconductor Manufacturing Company ("TSMC"), Intel, and
 28 GlobalFoundries.

1 CW 3 forwarded product testing results. According to CW 2, Pal reported to
2 Renduchintala. CW 3 also stated that all of the test groups submitted their reports
3 to Pal and all 810 data flowed through him. In fact, both CWs 2 and 3 stated that
4 as Renduchintala's subordinate, Pal regularly reported the progress of the 810
5 directly to him.

6 **IV. FACTUAL BACKGROUND**
7 **AND SUBSTANTIVE ALLEGATIONS**

8 **A. Qualcomm Was a Leader in the Telecommunications Industry**

9 50. Qualcomm was founded in 1985 in La Jolla, California, with the
10 simple intention to provide "quality communications." The Company developed
11 a mobile communications network based primarily on so-called CDMA
12 technology, which now is utilized in every mobile device currently on the market.
13 As a result, after going public on the NASDAQ in 1991, the Company has
14 become one of the largest and most successful telecommunications companies in
15 the world.

16 51. The Company operates through two main segments: QCT and
17 QTL. According to the Company's fiscal year 2014 ("FY14") Form 10-K, filed
18 with the SEC on November 5, 2014, QCT is a leading developer and supplier of
19 integrated circuits. An integrated circuit, also called a chip or microprocessor, is
20 a semiconductor wafer on which millions or billions of tiny resistors, capacitors,
21 and transistors are fabricated for the purpose of processing data. These circuits
22 are used in virtually all electronic devices, including, specifically, mobile phones.
23 Qualcomm designs, markets, and sells a particular type of mobile phone
24 integrated circuit known as a "mobile station modem" or MSM integrated circuit,
25 which allows a mobile device to process data for, *inter alia*, playing games,
26 operating a digital camera, or streaming video, and to connect to one of several
27 generations of wireless networks (hereafter "mobile processor").
28

1 52. Before and during the Class Period, Qualcomm sold mobile
2 processors through its QCT segment to OEMs such as Samsung, LG, HTC,
3 OnePlus, ZTE, Xiaomi, and Sony for use in cellular phones, smartphones, and
4 other mobile devices such as tablets.⁶ For fiscal year 2014, Qualcomm’s QCT
5 segment shipped 861 million mobile processors worldwide and generated 70% of
6 the Company’s total revenues, or \$18.7 billion.

7 53. Much of Qualcomm’s success has been the result of its design and
8 development of an extensive range of technologically advanced mobile
9 processors, which have been incorporated into smartphones since the late 1990s.
10 By the end of 2013, Qualcomm’s sales represented 64% of the overall mobile
11 processor market and 94% of the 4G/LTE mobile processor market. As the
12 pioneer in the industry, Qualcomm had a significant one to two-year
13 technological lead on its nearest competitors, launching its fourth and fifth
14 generation of 4G/LTE mobile processors when its competitors only were
15 announcing their first generation.

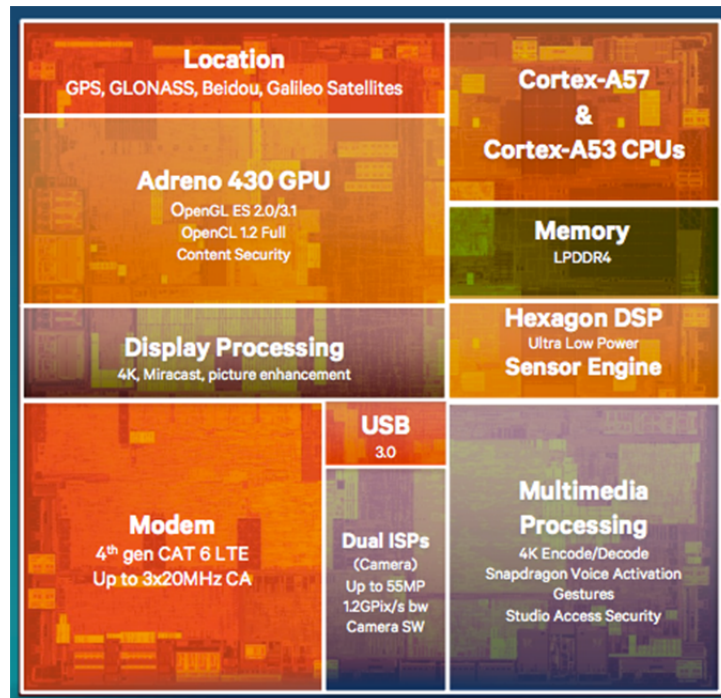
16 54. Coupled with the explosive growth in the smartphone market—from
17 122 million smartphones sold in 2007 to more than 1.4 billion sold in 2015—the
18 Company’s purportedly superior mobile processors and command of the relevant
19 market share made Qualcomm one of the only viable sources of chipsets for the
20 vast majority OEMs who design and manufacture the most sought-after premium-
21 tier smartphones. Indeed, as discussed in more detail below, Qualcomm’s
22 premium-tier Snapdragon processors became the only alternative for OEMs that
23 did not manufacture their own chips, including LG, HTC, Xiaomi, ZTE, OnePlus
24 and Sony.

25
26
27 ⁶ The term “smartphone” is used herein to refer to any and all mobile wireless
28 data processing devices (including smartphones, tablets, and “phablets” – devices
that function as both a phone and a tablet).

1. The Birth of Snapdragon and the “System-on-a-Chip”

55. In 2007, Qualcomm seized the opportunity for technology leadership in smartphones by designing the Snapdragon series of all-in-one mobile processors known as “System on a Chip” (“SoC”). Prior to the development of the SoC, most mobile devices included a number of different mobile processors tailored to perform specific functions, including connecting to the internet, playing a game or playing video. The SoC aggregates all of these mobile processors or “functional blocks” onto a single piece of silicon, which allows the smartphone to maximize its data processing speed, improving power efficiency and creating an overall enhanced user experience, and leading to the development of (and demand for) thinner and smaller smartphones.

56. Each function of a smartphone (*e.g.*, placing a call, sending a text, playing a game, or connecting to the internet) is performed by a distinct “functional block” in a SoC. A picture representing the functional blocks found in the Snapdragon 810 is set forth below:



1 57. The SoC's central processing unit or CPU is the "brains" of a
2 smartphone, and is central to its functionality. It governs how quickly a
3 smartphone can perform various functions, sometimes simultaneously, and is
4 critical to a SoC's ability to correctly process the millions of bits of data per
5 second that flow through it at ever-increasing speeds. Modern SoC CPUs have
6 multiple "cores," or distinct units that work in concert within the CPU functional
7 block to regulate the CPU's operations for more efficient processing.

8 58. The CPU is more likely to emanate heat than the other functional
9 blocks on the SoC because it processes data by utilizing the electrical energy from
10 billions of transistors to digitize the data signals. This electrical energy creates
11 heat within the SoC and, when used for an extended period of time, causes the
12 smartphone in which the SoC is implanted to feel warm to the touch. There is a
13 threshold, however, at which the heat generated by the CPU becomes so
14 excessive that it threatens the stability of the CPU, the SoC, and the smartphone
15 (and its user's skin). When the threshold is triggered, the software controlling the
16 SoC has a built in mechanism that shuts down the entire CPU or one or more of
17 its cores to prevent further damage. Once engaged, this mechanism slows down
18 the SoC's overall processing speed and efficiency until the smartphone cools
19 down.

20 59. In SoCs with multi-core CPUs, such as the Snapdragon 810, the
21 software controlling the SoC may shut down the more powerful cores within the
22 CPU, while allowing the slower, less strained cores to process incoming data.
23 This usually results in significantly slower data processing. Known in the
24 industry as "throttling"—shifting data processing from the powerful, faster cores
25 to the slower, low-powered cores—this can be a means of preventing thermal
26 damage to the CPU, the SoC, or the smartphone itself. However, "throttling" also
27 may result in sub-par user experience: the SoC may process data at noticeably
28

1 slower speeds or the smartphone may automatically reset or even restart at
2 random intervals. Thus, if a CPU consistently generates excessive heat, the
3 smartphone will not perform as originally designed or, in the case of a sale to an
4 end user, as advertised.

5 **B. Qualcomm's QCT Chip Business Relied Upon the Success of its**
6 **Premium-Tier Snapdragon Processors**

7 60. Qualcomm's Snapdragon SoC series was advertised as the most
8 technologically advanced and considered the industry leading chipset for mid- to
9 premium-tier smartphones. Indeed, the Snapdragon platform represented one of
10 the Company's fundamental strategies to grow QCT. Since 2007, Qualcomm has
11 released four different series of Snapdragon mobile processors—the 200 series,
12 400 series, 600 series, and the 800 series. Prior to 2014, each Snapdragon
13 processor relied on a customized CPU and gaming processor unit or GPU, which
14 further set it apart from other SoCs available on the market. Not only was
15 Qualcomm's expertise in developing these individual functional blocks
16 unparalleled, but by 2014, one billion devices had shipped with Qualcomm's
17 Snapdragon processors.

18 61. Qualcomm designed the Snapdragon 800 series for use in OEMs'
19 premium-tier smartphones. OEMs paid a premium for the Snapdragon 800 series
20 given the level of design, customization, technology, and raw processing power
21 these mobile processors purportedly provided, leading to higher profit margins for
22 Qualcomm as compared to the other Snapdragon series. Prior to the start of the
23 Class Period, Qualcomm began work on its latest generation of the Snapdragon
24 800 series—the 810.

25 62. Qualcomm initially designed the Snapdragon 810 to represent the
26 next generation in power efficiency, processing speeds, and technical capabilities,
27 including, critically, the ability to seamlessly connect to 4G/LTE networks. As
28 described by CW 3, the Snapdragon 810 was intended to be Qualcomm's

1 “Cadillac” processor. In fact, Qualcomm promoted it in that manner to OEMs
2 and the market. A successful launch of the Snapdragon 810 was material to its
3 revenues and profit margins, as the Company generated as much as 60% more in
4 revenues for the Snapdragon 810 than its predecessors.

5 C. **Qualcomm Radically Altered the Design of and Schedule for the**
6 **810 Due to Pressure from Samsung and Apple**

7 63. Qualcomm began developing the Snapdragon 810 in mid-2013 and
8 planned to launch the 810 commercially in January 2015. While Qualcomm
9 historically released new SoCs every year, according to CW 4, due to the high
10 costs and number of resources required to launch new mobile processors, the
11 Company decided to switch to a two-year development schedule for its
12 Snapdragon mobile processors starting with the 810. Accordingly, the 810 was
13 intended to be commercially available for at least two years before the launch of
14 its successor.

15 64. During the initial planning stages for the 810, Qualcomm identified
16 the smartphones in which it was to be incorporated and then designed the
17 processor to match the technological specifications and capabilities of those
18 devices. Samsung’s much-anticipated Galaxy S6 was one of the key devices
19 Qualcomm coveted for the 810. In fact, Samsung has historically purchased
20 mobile processors from Qualcomm for some of the most popular smartphones in
21 the world, yet manufactured processors internally for use in its lower tier devices.
22 According to an October 17, 2013 *Motley Fool* article, Samsung had long
23 designed its own SoCs for its devices but used Qualcomm’s “chips in many of its
24 flagship devices, largely due to the fact that when it comes to . . . efficient,
25 highly integrated smartphone apps processors[] Qualcomm is king.” Indeed,
26 since 2011, Samsung had utilized a Snapdragon SoC in **every** series of its flagship
27 Galaxy S device.
28

1 65. The pressure to convince Samsung to utilize Qualcomm’s flagship
2 mobile processors, including the 810, was significant because, according to the
3 Company’s 2014 Form 10-K, “revenues from Samsung [] constituted more than
4 10% of consolidated revenues” in “FY2013, FY2012, and FY2011.” Indeed, as a
5 June 19, 2014 *Marketline* report explained, “[t]he loss of any one of
6 [Qualcomm’s] significant customers or the delay, even if only temporary, or
7 cancellation of significant orders from any of these customers [will] impact the
8 company’s revenues in the period of the deferral or cancellation and w[ould]
9 harm its ability to achieve or sustain expected levels of operating results.”

10 66. According to CW 2, in 2013, Samsung surprised Qualcomm by
11 demanding that Qualcomm have the 810 ready for commercial launch in
12 November 2014, two months earlier than planned. In fact, according to CW 2,
13 Samsung threatened to walk away and use its own in-house SoC in place of the
14 810 if Qualcomm could not deliver on the accelerated launch date. Accordingly,
15 Qualcomm expedited its production timeline. As CW 1 explained: “Samsung
16 pushed them, and Qualcomm did what they needed to do to win their business.”

17 67. In addition to the expedited delivery schedule, Qualcomm was
18 forced to change the 810 from a 32-bit to a more powerful 64-bit chip in an
19 attempt to win Samsung’s business. As CW 4 confirmed, Qualcomm originally
20 designed the 810 to be fabricated in a 20 nm node utilizing a 32-bit processor.⁷ In
21 mid-2013, all of the premium-tier smartphones ran on 32-bit mobile processors.

22 68. In September 2013, however, Apple shocked the market by
23 unveiling the iPhone 5S with a 64-bit mobile processor. When operating at the
24 same speeds, a 64-bit chipset processes data at double the rate of a 32-bit chipset,
25

26 ⁷ “32-bit” refers to the speed at which a chipset can process data. “20 nm
27 node” refers to the size (in nanometers—on billionth of a meter) of each of the
28 multitude of transistors included within a given mobile processor. To put this in
perspective, a typical human hair is 75,000 nm.

1 making the 64-bit chipset a more powerful processor. Apple's shift to a 64-bit
 2 mobile processor caught Qualcomm flat-footed as it had not yet designed a 64-bit
 3 CPU core for its Snapdragon processors, wrongly predicting that the market was
 4 not yet poised to move to 64-bit chips. As one Qualcomm employee put it: "The
 5 64-bit Apple chip hit us in the gut We were slack-jawed, and stunned, and
 6 unprepared."⁸

7 69. Less than two weeks after Apple's announcement, Samsung
 8 announced that it would be adopting 64-bit architecture in its upcoming Galaxy
 9 S6. Despite Qualcomm's lack of a 64-bit SoC, shortly after Apple's
 10 announcement, Renduchintala decided to make the 810 a 64-bit mobile processor
 11 in order to retain Samsung's business. By late January 2014, Renduchintala's
 12 decision to include a 64-bit CPU in the 810 had been reported in industry media.
 13 Qualcomm recognized that "[t]he mobile hardware and software ecosystem is
 14 already moving in the direction of 64-bit..."

15 **D. The Snapdragon 810's Accelerated Timeline and Hasty Design**
 16 **Led to Undisclosed Overheating Problems in the Chip**

17 70. One of the Snapdragon's historical differentiators was its use of
 18 *customized* CPU cores. Specifically, for each of the cores contained within a
 19 Snapdragon CPU, Qualcomm took a "reference design" from ARM and
 20 customized it through design and software modifications in order to optimize the
 21 functionality of the various functional blocks on the SoC.

22 71. In order to quickly transform the 810 from a 32-bit SoC to a 64-bit
 23 SoC and still meet Samsung's accelerated November 2014 launch date,
 24 Qualcomm deviated from its typical practice of using customized CPU cores and
 25 instead utilized off-the-shelf, ARM-designed CPU cores *without customization*

27 ⁸ <http://blog.hubspot.com/opinion/qualcomm-apple-64-bit-chip-hit-us-in-gut>
 28

1 for the 810. This hasty decision to cut corners in the design process directly
2 contributed to the overheating problems that plagued the Snapdragon 810.

3 72. The Snapdragon 810's CPU was designed to have eight "cores" or
4 distinct processing units that worked in concert to regulate the smartphone's
5 operations. The 810's cores were paired in a "big.LITTLE" configuration,
6 wherein four more-powerful cores (manufactured by ARM, and called Cortex-
7 A57 ("A57")), capable of operating at a top speed of approximately 2.0GHz,⁹
8 were paired with four less-powerful cores (also manufactured by ARM, and
9 called Cortex-A53 ("A53")) capable of operating at a top speed of 1.6GHz.
10 Under typical circumstances, the "big.LITTLE" core configuration helped the
11 CPU to manage its heat generation by (i) directing the more complicated and
12 taxing functions to the more powerful cores, which operate at higher speeds, and
13 (ii) passing along simple, less taxing functions to the smaller cores, which operate
14 at slower speeds, utilizing less energy.

15 **E. Pre-Class Period Testing of the Snapdragon 810 in March 2014**
16 **First Revealed its Propensity to Overheat**

17 73. After deliberately deviating from its standard practice and rushing to
18 design a 64-bit 810, Qualcomm spent the remainder of 2014 extensively testing
19 the 810. As detailed below, testing was conducted in milestones and phases, and
20 Defendants were informed of the 810's progress every step of the process through
21 regular reports, meetings, and conference calls. Even early testing, however,
22 revealed that the 810 was suffering from serious and debilitating overheating
23 problems that continued unabated through its commercial launch in 2015.

24
25 ⁹ Processor speed is measured in gigahertz ("GHz") units to measure the
26 frequency of the current that passes through the processor's transistors;
27 1GHz =1 billion alternating currents per second. In a processor, this is known as
28 "clock speed." Thus, the A57 processed approximately 2 billion currents per
second.

1 74. By way of background, CW 4 identified the key milestones in
2 Qualcomm's development of its SoCs: (i) First Silicon (*e.g.*, the first samples of
3 the SoC), which includes three "elimination sample" test phases, known
4 internally as ES 1, ES 2, and ES 3; (ii) Feature Complete ("FC"), which refers to
5 the point in time when the SoC has all of its software components installed and
6 end-to-end testing of the SoC begins; (iii) Commercial Sampling, which refers to
7 the date samples of the SoC are first sent to OEMs; and (iv) Customer Ship date
8 ("CS date"), which refers to the date the finished SoCs are delivered to OEMs.
9 CW 3 confirmed that these were some of the key milestones for Qualcomm's SoC
10 development.

11 75. CW 3 reported that Qualcomm utilized two forms of testing on the
12 mobile processor: (i) software component testing, which typically began after
13 receipt of the First Silicon and looked at the SoC's individual software
14 components ("Software Component Testing"); and (ii) end-to-end testing, which
15 typically is conducted by the Product Test Group on the entire chipset after
16 Software Component Testing is complete and prior to the CS Date.

17 76. According to CW 4, the First Silicon phase of production for the 810
18 proceeded as follows:

- 19 • Qualcomm received the First Silicon for the 810 by Christmas 2013
20 and ES testing began in January 2014. During ES 1, which took four
21 to six weeks, Qualcomm determined whether the 810 was "booting
22 up" correctly and assessed the 810's CPU memory and functional
23 stability. ES 1 testing of the 810 concluded at the end of February
24 2014.
- 25 • During ES 2, which also took four to six weeks, the Company
26 performed a deeper dive into the tests performed in ES 1.
27 Specifically, the Company looked at the performance of specific
28 functional blocks on the 810, including the GPU. Qualcomm
completed ES2 testing of the 810 in March 2014.
- The Company began ES 3 testing after ES 2 ended in March 2014
and concluded it at some point between the third week of April and
the first week of May 2014. During ES 3, Qualcomm enabled more
features of the 810, and tested its functionality. In fact, it was during
ES 3 that the Company began extensive thermal testing of the 810.

1 77. CW 3 and CW 4 identified two key performance metrics that
2 Qualcomm analyzed when testing the 810: (i) Crashes Per Thousand Hours (of
3 testing) (“CPTH”), and (ii) Mean Time Between Failures (“MTBF”). These
4 metrics tested the stability of the chipset. CW 3 confirmed that a stable chipset
5 has a higher MTBF and lower CPTH (*i.e.*, the chipset runs for longer between
6 failures, with fewer crashes over the testing period). CW 4 further explained that,
7 as a result of the severity of the 810’s thermal issues discussed herein, in or
8 around May or June 2014, QCT specifically identified and isolated the number of
9 crashes caused by the 810 overheating as a separate “line item” in the reports
10 presented to QCT management.

11 78. CW 3 confirmed that Qualcomm brought in his group to test the 810
12 chipset in March 2014, after the Company received the First Silicon. According
13 to CW 3, the Product Test Group can be brought in early to test for big picture
14 issues because the Product Test Group had a better reputation for identifying
15 problems with a mobile processor than the Software Component Test Group.

16 79. Beginning in March 2014, CW 3 was responsible for drafting a
17 weekly email containing a snapshot of all of the 810 testing data for that week
18 (“snapshot”), including the number of crashes and issues identified with the most
19 recent software builds. A software build, or configuration, is a test version of the
20 software to be installed on the SoC. CW 3 sent these weekly emails to a wide
21 distribution list within the Company, including to his supervisor’s boss, VP
22 Rashmi Chari. He also reported his understanding that Pal had access to the data
23 in these weekly emails and was providing the data to Renduchintala. CW 3
24 further confirmed that the data CW 3 compiled was utilized for presentations to
25 “executive teams.”

26 80. According to CW 3, the Product Test Group’s March 2014 tests
27 showed that the 810’s CPU was overheating. Although CW 3 noted that it was
28

1 not necessarily unusual to see thermal issues with a chip at this stage, CW 3
 2 confirmed that, according to the documents reviewed by CW 3 during the CSRR
 3 process (see ¶¶ 118-121, *infra*), by December 2014, Qualcomm had still not
 4 resolved the overheating problems identified in March 2014 by the Product Test
 5 Group. By comparison, the most severe case of overheating that CW 3 had
 6 previously seen with any other chip was resolved in just three months.

7 **F. Despite Design Shortcuts and Initial Tests Showing**
 8 **the 810 Was Overheating, Qualcomm Touted the Snapdragon**
 9 **810's Performance and Functionality in April 2014**

10 81. Notwithstanding the unresolved problems identified in Qualcomm's
 11 ES testing of the 810, on April 7, 2014, Qualcomm introduced it to the public,
 12 heralding the 810 as the Company's "highest performing platform to date,
 13 completing [its] lineup of 64-bit enabled, LTE-equipped chipsets for premium
 14 computing mobile devices," and noted that the 810 "enable[s] an exceptional
 15 overall user experience with seamless connectivity and industry-leading power
 16 efficiency for flagship smartphones and tablets." Qualcomm also described the
 17 810 as "tightly integrated and optimized for exceptionally low power
 18 consumption that does not sacrifice performance."

19 82. The investment and financial media took notice, demonstrating the
 20 importance of the 810 to Qualcomm's QCT business. For example, on April 7,
 21 2014, *Bloomberg* published an article "Qualcomm to Debut New Mobile Chips
 22 Setting Higher Bar for Rivals," which highlighted the 810's performance.
 23 *Bloomberg* also highlighted that the 810 was the biggest update to the Company's
 24 premium-tier Snapdragon processors, meant to maintain Qualcomm's position as
 25 the market's primary supplier of high-end processors for high-tier mobile devices,
 26 "where its chips dominate." Likewise, on April 9, 2014, *Motley Fool* wrote that
 27 "Qualcomm's launch of new high-end 64-bit chips is likely to secure its future
 28 dominance," and noted that the 810 was part of the Company's ongoing effort to

1 remain well-ahead of competitors, and that this latest development would allow
 2 Qualcomm to “tighten its existing stranglehold” on the global market.

3 **G. Unprecedented Overheating Problems Continued to Plague the**
 4 **Snapdragon 810 During the Feature Complete Stage**

5 **1. Documented Evidence of Overheating**

6 83. The 810’s thermal issues continued to surface during the Feature
 7 Complete stage in 2014, and Defendants were regularly apprised thereof through
 8 written reports and oral presentations. With respect to written evidence,
 9 Qualcomm generated and/or distributed, *inter alia*, (i) Daily Audit Logs; (ii)
 10 Product Development Test Reports; (iii) Sub-System Reports; (iv) Root Cause
 11 Analysis Reports; and (v) Thermal Engineering Test Reports, all of which
 12 demonstrated that the 810 was exhibiting abnormal thermal problems.

13 84. CW 4 confirmed that FC, which focused on end-to-end testing of the
 14 810, began in late April or early May 2014. As part of this effort, according to
 15 CW 4, Qualcomm performed extensive software testing on the 810 to determine
 16 whether the chip was working properly, including with respect to its power,
 17 performance, and stability. For example, according to CW 4, Qualcomm
 18 conducted testing of the 810 on Mobile Test Protocol (“MTP”) devices. CW 3
 19 explained that MTPs are two to three times the size of a typical mobile device.
 20 Due to their size, MTPs are better at dissipating heat, and thus should perform
 21 better, than a typical smartphone during testing. CW 4 reported that, during the
 22 FC testing phase, the 810 was tested overnight in **thousands** of MTPs maintained
 23 in “device farms” located in San Diego, California; Boulder, Colorado; China;
 24 and India.

25 85. The overnight test results from the MTP device farms were
 26 maintained on a computerized *Daily Audit Log*. According to CW 4, the *Daily*
 27 *Audit Logs* provided insight into what was causing the 810 to fail in the device
 28 farms, and were reviewed and used by the engineers in an effort to determine

1 which changes could be made to the 810 to optimize its performance going
2 forward. CW 4 specifically recalled that the MTPs in Qualcomm’s device farms
3 experienced abnormally high CPTH—*they were crashing up to 1,000 times per*
4 *night*. According to CW 4, the 810 *never* met certain MTBF thresholds and
5 would not last more than *an hour* without failing. In fact, CW 4 had never
6 previously seen that type and amount of crashes with any previous Qualcomm
7 chipset. CW 4 confirmed that the *Daily Audit Logs* identified overheating as the
8 biggest root cause of the crashes.

9 86. The data from the *Daily Audit Logs*, including the identification of
10 any problems experienced by the MTPs and the general root cause of each MTP
11 failure, reset, or restart (*e.g.*, “thermal”), was consolidated into a report called the
12 *Product Development Test Report* (“PDT Report”). CW 4 recalled that the PDT
13 Reports contained several key metrics related to thermal testing, including CPTH
14 and MTBF. According to CW 4, the PDT Reports were generated daily and after
15 a milestone was reached for a specific software build. PDT Reports were often
16 sent directly to Defendants Renduchintala and Amon by Senior Vice Presidents.
17 In addition, PDT Reports were consolidated and presented to Renduchintala and,
18 at times, Amon during a weekly executive meeting, which CW 2 also described
19 (*see supra*).

20 87. CW 4 further recalls that the number of crashes due to overheating
21 was so unprecedented that Qualcomm created a special reporting metric to
22 identify and isolate the number of crashes caused by the 810 overheating. This
23 new metric was included as a separate “line item” in the reports provided to
24 Renduchintala and Amon, among others, in advance of the Bi-Weekly Executive
25 Meetings, defined below, and in the CSRR materials circulated to at least
26 Renduchintala, Amon and other QCT executives, prior to these meetings.

1 88. CW 2, who began working on the 810 in May 2014 on a team
2 responsible for one of the 810's software sub-systems, further confirmed that
3 reports addressing the Snapdragon 810's thermal issues, including reports for
4 each of the 810's software sub-systems, were generated daily ("Sub-System
5 Reports"). Likewise, CW 2 and CW 4 independently confirmed that they
6 received so-called *Root Cause Analysis Reports* during this period; and CW 3 and
7 CW 4 recalled receiving so-called *Thermal Engineering Test Reports*. Both of
8 the reports documented the 810's thermal issues, and were sent to Qualcomm
9 management. Indeed, CW 3 specifically recalls that the *Thermal Engineering*
10 *Test Reports* were sent to Renduchintala, among other senior-level executives.

11 2. Oral Evidence of Overheating

12 89. In addition to the regular written reports, Qualcomm engineers and
13 executives met frequently to discuss and analyze the 810's thermal issues,
14 including, *inter alia*, (i) Daily Target Scrum Meetings, (ii) Daily Team Lead
15 Meetings, (iii) Weekly Status Meetings, (iv) Weekly Principals Meeting, and (v)
16 Bi-Weekly Executives Meetings.

17 90. Beginning in May 2014 and continuing until at least November
18 2014, each engineer responsible for an 810 software sub-system, including CW 2
19 and CW 4, participated in "Daily Target Scrum Meetings." According to CW 2,
20 these meetings focused on issues the engineers were experiencing with the
21 Snapdragon 810 including, specifically, the recurring thermal issues. CW 4
22 explained that there also was a 10:00 a.m. meeting, during which engineers
23 presented and discussed the testing results, including specifically the thousands of
24 crashes observed in device farm testing the night before.

25 91. CW 4 further reported that team leads, including CW 4, met at 5:00
26 pm each day to further discuss the test results presented at the 10:00 a.m. meeting
27 and suggest changes to the software configuration (or software builds) to resolve
28

1 the issues or to conduct different tests overnight in the device farms (“Daily Team
2 Lead Meetings”). Pal (a Snapdragon 810 Project Engineer) and Rajeev
3 Prabhakaran (Senior Director of Technology) attended the 5:00 p.m. Daily Team
4 Lead Meetings and, thus, were aware of the overheating issues and MTP crashes.

5 92. Also beginning in at least May 2014, Qualcomm held weekly status
6 meetings regarding the 810 (“Weekly Status Meetings”). CW 2 reported
7 attending Weekly Status Meetings during which reports regarding the 810 were
8 presented (“Weekly Status Reports”) and the status of its progress was discussed,
9 including the plans for the 810 for the following week. CW 3 similarly noted that
10 the Product Test Group held weekly meetings.

11 93. During the same time period, CW 2 also was aware that Pal regularly
12 gave Renduchintala Snapdragon 810 project updates during weekly meetings
13 called “Weekly Principals Meetings.” According to CW 2, slides were presented
14 at these Weekly Principal Meetings to show Renduchintala, among others, what
15 issues the Snapdragon 810 was facing during testing. CW 2 participated in some
16 of these meetings, including telephonically, after being told to dial-in by Pal. One
17 of CW 2’s professional colleagues, a Qualcomm Technical Account Manager,
18 would advise CW 2 about issues discussed at those meetings CW 2 did not
19 personally attend.

20 94. CW 4 also recalled that, in May 2014, QCT executives, including
21 Renduchintala, Tony Schwartz, Pal, and on certain occasions, Amon, met every
22 Tuesday and Thursday at 2:00 p.m to discuss the 810 (“Bi-Weekly Executive
23 Meetings”). During the Bi-Weekly Executive Meetings, Schwartz made
24 PowerPoint presentations distilling the key points from the PDT Reports. CW 4
25 was personally present during certain of these executive meetings in which
26 Renduchintala was present and the thermal issues plaguing the 810 were
27 discussed.

1 95. Prior to each Bi-Weekly Executive Meeting, the participants,
 2 including Renduchintala and Amon, received an email containing an executive
 3 summary of the issues to be discussed at the meeting, as well as the raw testing
 4 data for the 810. CW 4 confirmed that the 810's thermal problems that were
 5 witnessed during testing were highlighted in these emails, including the separate
 6 "line item" showing the number of crashes, failures and resets specifically
 7 attributable to the 810's overheating problems. The emails also attached the
 8 PowerPoint presentation given by Schwartz during the meeting.

9 96. CW 2 further provided that, by no later than June 2014, he was
 10 personally aware that the Snapdragon 810 was experiencing more severe than
 11 normal thermal issues. CW 2 also added that based on his understanding,
 12 Renduchintala was fully aware of the thermal issues with the 810 by no later than
 13 June 2014 because, *inter alia*: (i) Pal provided him with information regarding the
 14 810 project, including during the *ad hoc* conference calls; and (ii) Renduchintala
 15 was responsible for allocating, and in fact allocated, additional resources to
 16 address the thermal issues.

17 97. CW 4 likewise added that he became personally aware of the 810's
 18 overheating problems by no later than March or April 2014. CW 4 further
 19 confirmed that Renduchintala and Amon would have been aware of the 810's
 20 thermal issues within two to four weeks after ES 3 testing began— *i.e.*, no later
 21 than April 2014 – and throughout FC testing by virtue of their attendance at and
 22 receipt of materials for the twice-weekly Executives Meetings discussed above.

23 H. **The 810's Overheating Issues Continued Unabated After**
 24 **Limited Commercial Release**

25 98. Increased testing and reporting, both internally within the Company
 26 and by OEMs, in the second half of 2014, confirmed to Defendants that the 810
 27 was still experiencing serious thermal issues that would not relent. Indeed, by
 28 July 2014, CW 3 reported that "everyone was in a panic" regarding the issues

1 plaguing the 810. As a result, CW 3 recalled that the 810 received far greater
2 resources—*e.g.*, more people, more hardware, more lab space—to resolve the
3 problem than the Company usually provided. CW 2 similarly recalled that
4 Renduchintala personally called for more engineers and financial resources to
5 address the 810’s thermal issues. As CW 3 noted with respect to the attempts to
6 fix the 810’s abnormal thermal problems, they were “throwing everything at it.”
7 Nonetheless, the problems would not dissipate.

8 99. Significantly, the amount and frequency of software builds being
9 tested in an attempt to stop the 810 from overheating was more than 10 times
10 greater than any prior chipset. Specifically, CW 3 and CW 4 confirmed that
11 Qualcomm typically tested three software builds per week (or approximately one
12 build every two days), but with the 810, the Company tested five to six software
13 builds *a day*, including on weekends. CW 3 reported that in his 22 years at
14 Qualcomm, “I have not seen any other chip set get this much attention.”

15 100. CW 4 confirmed that FC for the 810 concluded at the end of June
16 2014. After FC, in the summer of 2014, Qualcomm engaged in so-called
17 Commercial Sampling, *i.e.*, releasing samples of the 810 to OEMs so that they
18 could test the 810 in their prototype devices. CW 4 confirmed that Qualcomm
19 granted OEMs, including Samsung, LG, and HTC, access to the 810 during
20 Commercial Sampling. CW 3 recalled that Qualcomm had the option to make
21 modifications to the 810 based on the OEMs’ test results. Commercial Sampling,
22 including both the OEMs’ testing and the Company’s subsequent modifications,
23 took approximately three months.

24 101. CW 2 confirmed that rumors of the 810’s overheating began
25 circulating among the OEMs, starting in August 2014. CW 2 reviewed OEM
26 customer testing reports and recalled that they documented overheating and
27 instability issues. CW 2 further stated that OEMs determined that the observed
28

1 thermal issues were not caused by their respective MTPs. CW 6 likewise recalled
 2 that Samsung specifically raised with Qualcomm the 810's overheating issues
 3 that Samsung experienced during testing of the chip.

4 102. CW 2, CW 3, and CW 4 all confirmed that Qualcomm attempted to
 5 resolve the thermal issues with the 810 during the Commercial Sampling phase
 6 with no success. For example, CW 2 recalled that the Company conducted a
 7 number of additional tests during Commercial Sampling to determine if the
 8 thermal issues witnessed by the OEMs were caused by the 810 or by the OEMs'
 9 prototype mobile devices. CW 2 reported that in every instance, Qualcomm
 10 confirmed that the thermal issues were not caused by the OEMs' mobile device
 11 designs—the common cause for these observed thermal problems was the 810.

12 103. In September and October 2014, CW 1 confirmed that internal
 13 discussions at Qualcomm about the 810's overheating problems had become so
 14 common, that they occurred during lunch meetings between engineers.

15 104. CW 2 and CW 3 independently recall that Renduchintala was aware
 16 of the unrelenting overheating issues during the Commercial Sampling stage:

- 17 • CW 2 recalled that between September 2014 and November 2014,
 18 Renduchintala specifically raised questions regarding the 810's
 19 abnormal thermal issues, demonstrating his substantive knowledge
 20 of the thermal issues and their extensive history, and prompting Pal
 21 to schedule *ad hoc* conference calls (sometimes on the weekends) in
 22 which Pal, CW 2, and sometimes Renduchintala participated. CW 2
 23 specifically recalled one such call in September 2014 wherein Pal
 24 referred to the 810 as a "piece of crap." CW 2 recalled another call
 25 in November 2014 wherein Renduchintala asked, "What is the root
 26 cause of the thermal issues?" For *ad hoc* conference calls in which
 27 Renduchintala did not directly participate, CW 2 understood that the
 28 overheating information provided by CW 2 and the other participants
 to Pal was provided by Pal to Renduchintala.
- CW 3 characterized Renduchintala as a "micromanager" that needed
 to know everything that was occurring within the division. Based on
 information provided to CW 3 by the Senior Director of the Product
 Test Group during weekly Product Test Group meetings, CW 3
 reported that, during the November/December 2014 timeframe,
 Renduchintala received daily written reports. According to CW 3,
 by December 2014, the "bulk" of these reports discussed the 810's
 abnormal thermal issues—which still were not resolved. Indeed,

1 according to CW 3, the 810's thermal issues prompted the daily
2 reports and once the 810's thermal issues arose, Renduchintala
demanded receipt of the aforementioned daily reports.

- 3 • CW 3 further recalls that Renduchintala, at least in December 2014,
4 attended daily Snapdragon scrum meetings where the 810's thermal
issues were discussed.
- 5 • CW 3 also recalled that in December 2014, he was asked by his
6 superior to retrieve the PDT Reports on the 810 from March to
7 December 2014 for Pal's review. Those reports documented the still
unresolved thermal issues, and according to CW 3, Pal provided this
information to Renduchintala by no later than July 2014.

8 105. Further supporting the foregoing allegations, CW 8 recalled that five
9 to six engineers from the APT Unit (CW 8's unit), who worked on the 810, told
10 CW 8 in late 2014 that the 810 was experiencing overheating and power
11 consumption issues. CW 8 further recalled that, as a result of these issues, several
12 of CW 8's colleagues had to work through Christmas and New Years in 2014.
13 CW 8 added that the thermal and power consumption issues were "common
14 knowledge" at the Company—"everyone knew about it"—and Qualcomm spent
15 months trying to resolve these problems to no avail.

16 **I. Samsung Told Defendants in October 2014 That it Would Not**
17 **Use the Snapdragon 810 in the Galaxy S6**

18 106. Since 2011, Samsung had utilized a Snapdragon SoC in *every* series
19 of the Galaxy S device, including the Galaxy S, the Galaxy S2, the Galaxy S3, the
20 Galaxy S4, and the Galaxy S5, which used the Snapdragon 801, 802, 803, 804,
21 and 805, respectively. As *Business Insider* noted in a July 23, 2015 article,
22 Samsung "had been a loyal customer of Qualcomm's main processor since 2011."

23 107. Given Samsung's history of using Qualcomm's Snapdragon SoCs in
24 the Galaxy S series, the market fully expected that Samsung would include the
25 processor in its Galaxy S6 as soon as Qualcomm announced the Snapdragon 810
26 in April 2014. See ¶¶ 69, 81-82, *supra*. For example:

- 27 • As early as April 9, 2014, *Tech 2* reported that "we can expect th[e]
28 810] debut in Samsung's Galaxy S6 next year."

- 1 • *Motley Fool* reported on May 21, 2014 that “the timing really does
2 suggest that [the Snapdragon 810]’s going to be ready for the
3 launches of next-generation ‘hero’ phones like the Samsung Galaxy
4 S6[.]”
- 5 • On October 27, 2014, *International Business Times* noted that the
6 Galaxy S6 “is [] expected to boast Qualcomm’s latest 20-nanometer
7 class—64-bit architecture based silicon chip—Snapdragon 810 series
8 Octo-core CPU[.]”
- 9 • On the same date, *Gadgets 360* reported, “[a]nother major upgrade
10 expected in the Samsung Galaxy S6 is under the hood, as the
11 smartphone is tipped to be powered by a 64-bit Qualcomm
12 Snapdragon 810 processor.”
- 13 • Also on October 27, 2014, *Tech Times* confirmed that “[t]he Galaxy
14 S6 is also expected to house the Snapdragon 810 chip.”

15 108. CW 2 noted, however, that in August 2014, news began to circulate
16 within Qualcomm that Samsung was aware of the 810’s thermal issues and, as a
17 result, was planning to use its own proprietary chip instead of the 810 for the
18 Galaxy S6. CW 1 specifically recalled that colleagues and co-workers
19 represented during lunch meetings that Samsung was dropping the Snapdragon
20 810 **because of** these overheating issues in 3Q14.

21 109. During this period, CW 2 met weekly with his counterpart at
22 Samsung, with whom he had a cordial relationship, to discuss the rollout of the
23 Snapdragon 810. In October 2014, during one of those weekly meetings, CW 2’s
24 counterpart at Samsung confirmed to CW 2 that Samsung planned to abandon the
25 810 because of its thermal issues.

26 110. Within one to two weeks of that meeting, CW 2 attended a meeting
27 with Renduchintala and other engineers. During the meeting, CW 2 recounted his
28 conversation with his counterpart at Samsung, *i.e.*, that Samsung was abandoning
the 810 **due to its overheating issues**, to Renduchintala and asked him directly if it
was true that Samsung was abandoning the 810. Renduchintala replied that it was
true.

1 111. CW 6 confirmed that Samsung specifically raised with Qualcomm
2 the overheating issues with the 810 that the OEM experienced during its testing of
3 the chip and deliberation over whether to use the 810 in the Galaxy S6. In fact,
4 CW 6 reported that Samsung raised a lot of questions about the 810's heat
5 emission. According to CW 6, pursuant to Qualcomm's general practice,
6 Qualcomm's marketing and sales departments handled the discussions and
7 negotiations with Samsung regarding whether it would use the 810 in the Galaxy
8 S6. CW 6 further stated that, pursuant to Company practice, members of CW 6's
9 team provided technical support to Qualcomm's marketing and sales teams to aid
10 in those discussions and negotiations. These same team members informed CW 6
11 that Samsung raised the issue of the 810's overheating during its deliberation over
12 whether to use the chip in the Galaxy S6. CW 6 further reported that CW 6's
13 team was charged, pursuant to its general practice, to continue working with
14 Samsung to resolve the thermal issues up to the time when Samsung informed
15 Qualcomm that it would not be using the 810. In fact, CW 6 recalled that, as with
16 any large customer, it was Qualcomm's normal practice to try to convince
17 Samsung to reconsider. CW 6 called the loss of Samsung "hard to swallow," as
18 Samsung was a major customer.

19 112. CW 8 also learned in early 2015, from the same engineers who
20 informed CW 8 of the 810's thermal and power consumption issues, that
21 Samsung had cited overheating as a reason it abandoned the 810. According to
22 CW 8, Samsung's decision not to use the 810 caused a "big blow up" at the
23 Company, which ultimately forced Qualcomm to lay off employees.

24 113. Despite knowing that Samsung, Qualcomm's second largest chip
25 customer, had decided not to use the Snapdragon 810 in its Galaxy S6,
26 Defendants misleadingly assured the market that the 810 was being widely
27
28

1 accepted by its OEM customers. For example, during the Company's November
2 19, 2014 Analyst Day, Amon told investors:

3 ***Snapdragon traction, I think we talk about that every year and it's***
4 ***a very important metric for us.*** I think [I'll] start with the premium-
5 tier. Snapdragon processors continue to set the design point for the
6 premium-tier has been a number of flagship devices across many of
7 the OEMs. ***I won't list them all, but I think it's very clear that we'll***
8 ***be able to maintain our leadership position in the premium-tier.***

9 114. Similarly, on December 2, 2014, the Company boasted that "[m]any
10 of the flagship smartphones released next year are expected to be built around
11 Qualcomm Snapdragon 810 processors....," notwithstanding that the most
12 important "flagship," the Galaxy S6, was not "expected to be built around" the
13 810.

14 115. Given Defendants' comfort statements concerning the acceptance
15 and incorporation of the 810 into premium-tier smartphones in November and
16 December 2014, the market continued to believe that Samsung's Galaxy S6
17 would be powered by the Snapdragon flagship, as confirmed by the industry
18 publications that echoed Defendants' representations. For example:

- 19 • Analysts at *Canaccord* wrote that they were "impressed" by Amon's
20 November 19, 2014 representation of "continued Snapdragon and
21 thin modem momentum in F2015" and, thus, anticipated that the
22 chipset "will ship in volume into next-gen leading global smartphone
23 programs at Samsung."
- 24 • On November 24, 2014, *Tom's Hardware* noted that the 810 was
25 "likely to appear in the Galaxy S6."
- 26 • *BGR* noted on December 4, 2014 that "[h]andsets like the Galaxy S6
27 . . . expected to launch in the first half of next year" were likely to
28 be powered by the 810.
- Also on December 4, 2014, *SamMobile* reported that "the 64-bit
Snapdragon 810 chip is expected to power most of the major
flagship lineups in the Android World, including the Galaxy S6."
- *Softpedia* reported on December 9, 2014 that "the Snapdragon 810
has been said to power upcoming flagship smartphones like the
Galaxy S6."

1 **J. The Snapdragon 810 was Commercially Launched Despite its**
 2 **Known Thermal Issues that Negatively Affected the Chip's**
 3 **Performance**

4 **1. Defendants Launch Snapdragon 810 Commercially**
 5 **Despite Known Overheating Problems**

6 116. During the final stages of testing, Defendants received confirmation
 7 that the 810's thermal issues were persisting and expressly acknowledged the
 8 detrimental impact this would have on the Company, but proceeded to launch the
 9 810 in commercial devices nonetheless. For instance, in November 2014, shortly
 10 after the Company's Q4 earnings release, CW 4 attended a Company-wide "all-
 11 hands" meeting headed by Mollenkopf, which would have been attended by all of
 12 Mollenkopf's direct reports. During this meeting, Mollenkopf acknowledged that
 13 the 810 was overheating and that the Company was working to resolve the
 14 problems, but conceded that the flawed 810 would have an economic impact on
 15 the Company in the future.

16 117. CW 4 also recalled attending a second "all-hands" meeting for the
 17 QCT division during the same time period, in which Renduchintala discussed the
 18 810's thermal issues in greater detail. Specifically, slides from the Company-
 19 wide "all-hands" meeting were presented followed by a detailed discussion of the
 20 thermal issues with the 810 and next steps in addressing the issues.

21 118. Also in late-2014, after Commercial Sampling was complete, the
 22 Company conducted Customer Shipment Readiness Review ("CSRR") meetings
 23 to discuss whether the 810 was ready to be mass produced and shipped to OEMs.
 24 These meetings consisted of at least four separate meetings, with each addressing
 25 either the 810's hardware or software, and each involving either low-level
 26 engineers or top-level executives, including Renduchintala and Schwartz, and
 27 sometimes Amon.

28 119. During these day-long CSRR meetings, CW 3 recalled that various
 representatives would discuss testing benchmarks and make either a "go" or "no

1 go” decision on the chip’s release. Likewise, CW 4 noted that CPTH and MTBF,
2 as well as the new thermal metric “line item” that was created specifically to
3 identify all device crashes due to the 810 overheating (*see* ¶ 87, *supra*) were
4 among the key testing metrics discussed at the CSRR meeting to assess readiness
5 to ship. These metrics, as CW 4 recalled, were depicted on a “Dashboard”
6 presentation included in slide decks and distributed to attendees prior to the
7 meetings, including Renduchintala, Schwartz and Amon. CW 4 further stated
8 that meeting participants, including Renduchintala and Amon, also received
9 executive summaries and raw data prior to each meeting via email. Minutes and
10 “action items” were also generated following each CSRR meeting and distributed
11 to all invitees, so that those who were not able to attend would be informed.

12 120. Several CSRR meetings for the 810 took place in November and
13 December 2014, and the materials discussed at those meetings showed
14 abnormally high CPTH and abnormally low MTBF test results, which evidenced
15 continued overheating of the 810. In fact, these were the same metrics present
16 when the MTP devices were crashing 1,000 times per night during FC. Despite
17 these adverse test results demonstrating that the 810 continued to overheat,
18 Defendants made the final decision to go ahead with commercial production of
19 the 810 during these meetings.

20 121. Indeed, CW 2 specifically recalled that Qualcomm decided to deliver
21 the 810 to LG despite knowledge of its abnormal thermal issues. CW 2, who
22 supported LG for the release of the G Flex 2, recalled that Qualcomm “ran out of
23 time” as LG was launching the G Flex 2 in early January 2015 and Qualcomm
24 had still not resolved the overheating problems with the 810 in time for delivery.
25 Likewise, CW 3 recalled that the Qualcomm launched the 810 to LG with known
26 thermal issues.

2. **Qualcomm Falsely Denied Rumors of Overheating in the 810**

122. On December 4, 2014, *Business Korea* published an article titled, “Unexpected Hurdle: Problems in Qualcomm Snapdragon Set Alarm Bells Ringing for Samsung, LG,” which reported that it was “unclear whether . . . the supply of the Snapdragon 810 will exist in the first half of next year due to technical problems such as overheating and a decline in speed.” Specifically, the article quoted an “industry source” who stated two days earlier: “Qualcomm is faced with hard-to-solve problems. The Snapdragon 810 overheats when it reaches a specific voltage” and that for that reason, among others, “it is unclear if the Snapdragon 810 will be used in premium smartphones like the Galaxy S6 [and] the G4....”

123. In response, Defendants falsely denied these rumors to media outlets, including *TechRadar*, *Tom’s Hardware*, and *Gadgets 360*, stating, “everything with the Snapdragon 810 remains on track” for commercial launch in 1Q15.

124. These denials continued into early January 2015 when Defendant Aberle confirmed that Qualcomm was “on track with the 810” during his January 5, 2015 presentation at the Company’s press conference at the Consumer Electronics Show (“CES”) in Las Vegas. Two days later, *Tom’s Hardware* updated an earlier article to note, “[w]e had an opportunity to speak with Tim Leland [Qualcomm’s VP of Product Management] . . . about these rumors regarding Snapdragon 810’s performance. According to him, . . . ***there aren’t any significant technical issues that will cause a delay.***”

125. Despite Defendants’ attempts to quell the rumors concerning the 810’s propensity to overheat, reports continued to surface stating that the 810 was, in fact, overheating. On January 7, 2015, *Barron’s* published an article referring to a report by J.P. Morgan analysts, claiming that “Qualcomm’s new Snapdragon 810 chips do have overheating issues”:

Based on our research and press reports, QCOM's new 64bit Snapdragon 615 and 810 chips **are suffering from overheating issues. These issues surfaced in December, especially for the 810, but appear to be persisting.** ... For the Snapdragon 810, a flagship chip for use in high-end models, we believe the issues are related to the implementation of new 64bit ARM cores (A57), **which is causing overheating** when accelerating above 1.2-1.4 GHz frequencies, which is a major limitation for a flagship phone.

126. On January 8, 2015, the *Korea Times* published an article titled "Qualcomm Caught in Tech Issues," which reported, in part:

The Snapdragon 810, however, faces concerns about technological issues.

Problems such as overheating at certain voltages and performance degradation caused by memory controller problems have been reported, and its clock rate, an index representing a processor's performance, was estimated to be lower than its predecessor, the Snapdragon 805.

An uncontrollable limitation of processing speed to prevent overheating has been pointed out. According to the mobile chipset benchmark Geekbench, the Snapdragon 810 had a serious "throttling" problem that forcibly limits the graphic processing performance when it overheats.

127. Also on January 8, 2015, *Android Authority* issued an article titled, "More rumors surface regarding Snapdragon 810 overheating issues." The technology publication reported that "all may not be well with Qualcomm's latest high-end SoC, as more rumors have surfaced suggesting that the chip is struggling with some performance impacting production issues." Citing "crippling overheating issues," the article reported that:

this [overheating] problem is caused by the high-performance Cortex-A57 cores overheating when clock speeds reach 1.2 to 1.4GHz, which is a surprising problem for a core designed to run at speeds approaching 2GHz. This then causes the chip to throttle back on performance, to prevent the whole system from overheating.

However, Samsung's Cortex-A57 powered Exynos 5433 does not suffer from overheating issues, **suggesting that this is a problem specific to Qualcomm's Snapdragon design rather than a problem with the Cortex-A57 itself.** This leaves the finger pointed at Qualcomm and TSMC's 20nm chip design, with several analysts suggesting that a "redesign of a few metal layers" may be needed to fix the issue.

1 128. The January 8, 2015 *Android Authority* article went on to note that
 2 (1) the use of 20 nanometer transistors with a A57 CPU had the propensity to
 3 overheat, and (2) the authors' benchmark testing of the 810 showed
 4 "underwhelming results" suggesting overheating and resulting throttling:

5 We know that TSMC [Qualcomm's chip supplier] had been
 6 struggling with its 20nm technique for some time and, as this is
 7 Qualcomm's first attempt at a 20nm design, it is possible that
 8 unanticipated defects may have appeared. ***Heat is a serious
 9 potential issue when combining high-performance CPU and GPU
 10 components into such a confined space,*** and four Cortex-A57s and
 11 the new Adreno 430 may have pushed the chip's heat up above what
 12 we have seen with the older Snapdragon 8XX series and newer low
 13 power Cortex-A53 Snapdragon 615.

14 ***A closer inspection of the [810 testing] results suggests that most of
 15 the performance troubles stem from the CPU side of things,*** with
 16 Single Thread and Multitasking scores falling well behind rival
 17 Cortex-A57 and A53 based SoCs and even failing to match the
 18 performance of older Snapdragon 600 handsets. ***CPU throttling,
 19 possibly due to high-temperatures, is certainly a plausible
 20 explanation for such a large performance gap.***

15 3. **Investors Finally Learned That Samsung Was Not Using 16 the 810 in the Galaxy S6**

17 129. On January 20, 2015, *Bloomberg* posted an article titled, "Samsung
 18 Said to Drop Qualcomm Chip From Next Galaxy S," reporting that Samsung
 19 "will use its own microprocessors in the next version of the Galaxy S
 20 smartphone" because the Snapdragon 810 "overheated during the Korean
 21 company's testing," based on statements from "people with direct knowledge of
 22 the matter." Both Qualcomm and Samsung refused to comment on the
 23 *Bloomberg* article. *Bloomberg* noted that "Samsung is Qualcomm's second
 24 largest customer, providing about 12 percent of its sales" while also quoting an
 25 equity sales manager who called the revelation "huge news."

26 130. Less than ten days later, on January 28, 2015, the Company released
 27 its results for 1Q15 and shocked investors by announcing that they expected a
 28 "large customer" not to use the Snapdragon 810 in its "flagship device." Analysts

1 immediately saw through Qualcomm's half-hearted attempt to disguise the
 2 identity of the large OEM. As the Company later confirmed in May 2015, the
 3 "large customer" was Samsung and the "flagship device," was the Galaxy S6.

4 131. As noted above, the loss of the Galaxy S6 was a major departure
 5 from Qualcomm's history with Samsung, which had used Snapdragon processors
 6 in its Galaxy S series since 2011. As RBC noted in a January 29, 2015 report,
 7 "[l]osing out on a socket after such a **long history with Samsung** [] add[ed]
 8 further pressure on Qualcomm to get back to its position of distancing itself from
 9 the competitors."

10 132. Defendants were quick to dispel any indication that Samsung had
 11 dropped the 810 because the SoC had thermal issues. For example, during a
 12 subsequent earnings conference call, Mollenkopf falsely asserted that the 810 "is
 13 working the way that we expected [it] to work"; while Defendant Aberle added
 14 that the issue was "isolated really to one account and one portion of their
 15 portfolio." In a follow up statement to the media, Amon was far more
 16 unequivocal, telling *CNET* on January 31, 2015, "**Categorically, we don't see any**
 17 **problem with the chip.**"

18
 19 4. **Premium-Tier Smartphones Launched During the Class
 Period Overheated Because of the Inclusion of the 810**

20 (a) **OEMs Had No Alternative to the 810**

21 133. During the Class Period, a majority of OEMs, other than Samsung,
 22 relied exclusively on Qualcomm for their premium-tier mobile processors as
 23 Qualcomm was the leader in industry. In particular, CW 2 confirmed that OEMs
 24 depended on Qualcomm because Qualcomm's SoCs were considered superior
 25 chips. As a November 6, 2015 *PC Magazine* article reported, "Intel and Samsung
 26 nibble around the edges, but Qualcomm's strength has always been its ability to
 27 integrate CPUs, GPUs, and 3G and 4G modems in ways that fit into small
 28

1 packages and make wireless carriers very comfortable.” According to the article,
 2 the phone manufacturers *PC Magazine* spoke with “always turn to Qualcomm”
 3 for its chipsets.

4 134. Moreover, Qualcomm’s rush production of a 64-bit chip in 2014
 5 made it one of the only viable options for OEMs who wanted to compete with
 6 Apple. In particular, when Apple unveiled its revolutionary 64-bit device,
 7 Apple’s competitors—the largest Android OEMs in the world—had to find a
 8 readily available 64-bit chip to launch their devices to the market or lose a
 9 marketing, and likely business, advantage to Apple. As the industry leader, the
 10 market expected and anticipated that Qualcomm’s 810 would be the preeminent
 11 64-bit SoC on the market.

12 135. Because of its technological leverage, Qualcomm also had
 13 tremendous licensing power over OEMs. A January 2017 *Android Authority*
 14 article explained:

15 ...Qualcomm’s lucrative business model provides cash for R&D and
 16 contract negotiation leverage that smaller chip companies just don’t
 17 have. Qualcomm owns patents for a number of hugely important
 18 mobile technologies. The company earns money from every phone
 19 sale, even those that don’t use a Qualcomm chip, as 3G CDMA and
 4G LTE data technologies are based primarily on the company’s IP.
 If your phone has a CDMA or LTE modem, ***even one designed and
 manufactured by another company, Qualcomm takes a cut.***

20 Thus, to the extent an OEM opted for an alternative chip—assuming a
 21 comparable one existed—it would have to pay the manufacturer for the hardware,
 22 as well as pay Qualcomm a significant royalty fee for using the cellular
 23 technology. On the other hand, OEMs were incentivized with lower fees (and
 24 corresponding higher profit margins) for using a Qualcomm mobile processor.

25 136. Furthermore, Qualcomm’s OEM customers, other than Samsung, did
 26 not have the ability to create their own chip and thus had no choice but to use the
 27 810 to meet their 2015 production deadlines. The December 4, 2014, *Business*
 28 *Korea* article that first reported the 810’s propensity to overheat stated that while

1 “Samsung is likely to solve the [810 overheating] problem by featuring its own
2 Exynos chips in the Galaxy S6,[]LG seems to be in trouble” because “it won’t be
3 easy for LG to find an alternative chip for the G4”—LG “badly need[s] the
4 Snapdragon 810.”

5 137. Likewise, on December 6, 2014, *TechRadar* wrote that an industry
6 “source” reported that “the Snapdragon 810 overheats when it reaches a specific
7 voltage” and while Samsung can turn to its own Exynos chips to replace the 810,
8 other OEMs did not have that option: “Other phones that are supposed to pack
9 the 810—or are rumored to at least—include the Sony Xperia Z4, the HTC One
10 M9, Motorola's next Droid, the Xiaomi Mi 5, and others. ***Where all these phone
11 makers will come up with alternative processors if Qualcomm really is
12 struggling is anyone's guess.***”

13 138. Two days later, on December 8, 2014, *Tom's Hardware* further
14 confirmed that OEMs other than Samsung had no other SoC alternative to the
15 810:

16 If the Snapdragon 810 does indeed have some hard to fix issues by
17 the time it's supposed to be out in several flagship devices, such as
18 the Samsung Galaxy S6, HTC “Hima,” Sony Xperia Z4, LG G4 and
19 others, then most of these devices should have trouble shipping on
20 time. The only one that may be able to ship without major obstacles
could be the Galaxy S6. Samsung's phone should come with the
company's own Exynos processor anyway, at least internationally.
The other companies' flagships won't have the same opportunity.

21 139. Likewise, while the JP Morgan report cited in the January 7, 2015
22 *Barron's* article expressed concern that Samsung may ditch the 810 in favor of its
23 in-house Exynos chip, it recognized that ***“other phone OEMs will stay [with the
24 810] because they do not have the capabilities to produce chips inhouse.”***

25 140. Given the lack of comparable alternatives in the market, the
26 increased costs accompanying non-Qualcomm SoCs, and the OEMs' inability to
27 produce in-house chips, when the 810's thermal problems surfaced, most OEMs
28 had only three options: (1) use the 810 and try to mitigate the overheating issues

1 with software “fixes”; (2) use an older version of the Snapdragon; or (3) delay the
2 release of their product. But, because of the reputational and economic impact of
3 the latter two options, most OEMs were stuck using the 810, which ultimately
4 impacted sell through and demand for the 810-based phones. As *Ars Technica*
5 noted in February 2017, “[s]ometimes Qualcomm drops the ball, like with
6 2015’s hotter-than-usual Snapdragon 810, and when that happens, most OEMs
7 have no alternative.”

8 **(b) LG’s G Flex 2 and G4**

9
10 141. LG launched the first smartphone incorporating the Snapdragon
11 810—the G Flex 2—at the Consumer Electronics Show on January 5, 2015. As
12 noted above, the loss of Samsung’s business and the rumors of overheating
13 adversely impacted Qualcomm. As such and according to CW 2, Qualcomm
14 “pushed” LG to launch the G Flex 2 with the 810 in January 2015. Indeed, CW 9
15 recalled that once Samsung dropped the 810 from consideration for the Galaxy
16 S6, Renduchintala traveled to Korea to meet with LG officials to “beg” them to
17 include the 810 in the G Flex 2. Having no viable alternative and faced with
18 pressure from Qualcomm, LG ultimately launched the G Flex 2 powered by a
19 flawed, overheating 810.

20 142. CW 2 and CW 3 both recalled that immediately after the LG release,
21 many G Flex 2 users complained that their cellphones were operating slowly and
22 resetting. CW 2 advised that certain G Flex 2 users quickly figured out that there
23 were issues with the Snapdragon 810. Many of these users used commercially
24 available applications (“apps”) that allow users to benchmark the performance of
25 their phone’s speed and thermal levels. CW 2 advised that these apps clearly
26 indicated that the Snapdragon 810 was performing worse than the previous
27 generation chipset.
28

1 143. In addition to CW 2's and CW 3's firsthand recollections, public
2 reports during and after the Class Period confirm that Qualcomm delivered the
3 810 to LG in an overheating condition. For starters, notwithstanding that LG's
4 sales of the G Flex 2 were dependent on the market believing that the 810 was not
5 overheating, LG was not willing to give the 810 a clean bill of health. For
6 example, a January 22, 2015 Wall Street Journal article reported that, LG was
7 working around "the chip's heat emission."

8 144. On January 29, 2015, *Android Authority* reported: "As it turns out,
9 LG had more troubles developing the 810-powered LG G Flex 2 than it originally
10 let on. Despite denying that overheating was an issue a week earlier, at an LG
11 earnings conference in South Korea, LG came clean and admitted that it had run
12 into some issues with its 'initial batch' of chips."

13 145. Evidence that the 810's propensity to overheat adversely impacted
14 the LG's G Flex 2 further materialized on April 28, 2015 when LG announced its
15 next flagship device—the G4. This device was self-described by LG as its "most
16 ambitious phone yet" and was the successor to its hit, award-winning G3.
17 According to an April 28, 2015 *BGR* article, the G4 was expected to be "one of
18 the most technologically advanced smartphones the world has ever seen"—and
19 was expected to compete directly with the Galaxy S6.

20 146. LG, however, unexpectedly announced that the G4 would use the
21 Snapdragon **808**, a chip that was actually designed to be *less* powerful than the
22 810, according to Company specifications. Originally, as confirmed by CW 2,
23 LG had agreed to use the Snapdragon 810 in both the G Flex 2 and the G4, but
24 after the G Flex 2 had experienced overheating problems due to the 810, LG
25 made the decision to go with the Snapdragon 808 instead. As *Softpedia* reported
26 on October 7, 2015, "after putting the Snapdragon 810 inside its LG G Flex 2, it
27 changed stance and embraced the Snapdragon 808 for its LG G4 flagship."
28

1 147. The 808 represented a downgrade in most respects from the 810.
 2 According to a *XDA Developers* article, the GPU in the 810—the Adreno 430—
 3 was supposed to be “around **50% faster** than the one found in the Snapdragon
 4 808.” The 810 also had more cores in its CPU, allowed for greater memory, and
 5 could display 4k natively. Notably, as discussed below, the singular area where
 6 the 808 was superior to the 810 was in its ability to generate less heat.

7 148. As it had with other rumors regarding the 810’s overheating
 8 problems, Qualcomm quickly and emphatically denied that LG had shunned the
 9 810 for the 808 in the G4, stating, “[t]he decisions on which chipset to put on
 10 which handset come from over a year ago.” Notably, Qualcomm provided no
 11 evidence for this allegation and continued to falsely deny that overheating existed
 12 at all. Moreover, it made no sense for LG to utilize an inferior processor for one
 13 of its “most ambitious” flagship devices. As noted by *Tech Radar* at the time of
 14 the G4’s release, it seemed “odd that [LG] would just down-spec the phone for
 15 the sake of it. . . . It seems even if there were an issue with the 810—and it seems
 16 odd not to use the greater-powered chip given it was the first to do so with the G
 17 Flex 2—LG isn’t prepared to talk about the reasons.”

18 149. The reason was simple—independent testing showed the 810
 19 overheated, and adversely affected the G Flex 2’s performance, whereas the 808
 20 did not have the same effect on the G4. On April 30, 2015, *Android Authority*
 21 published an article containing testing results further demonstrating that the 810
 22 caused the LG G Flex 2 to overheat: “Test finds Snapdragon 808 doesn’t heat up
 23 as much as the 810.” The article compared thermal test results of the Snapdragon
 24 808-powered LG G4 against the 810-powered G Flex 2, reporting that:

25 ***The results are quite stunning***, the Snapdragon 808 powered LG G4
 26 can keep hitting its peak 1.8GHz clock speed for 6 minutes, before
 27 slowing succumbing to throttling down to 1.4GHz after almost 15
 28 minutes. ***The Snapdragon 810, on the other hand, barely reaches
 its peak speed before appearing to throttle to around 1.4GHz and***

1 ***then being almost locked to its minimum speed after just three***
 2 ***minutes.***

3 The testing demonstrated that the 810 caused the LG G Flex 2 to begin to throttle
 4 ***“[t]he results certainly point to a throttling issue with the Snapdragon 810, at***
 5 ***least inside the LG G Flex 2 ... While not all Snapdragon 810 powered handsets***
 6 ***will necessarily suffer from throttling to exactly the same extent, there’s not***
 7 ***much that different OEMs can do to cool the chip down.*** This certainly raises
 8 more questions and concerns about the 810’s performance as a flagship tier SoC.”

9 (c) **HTC’s One M9**

10 150. On March 2, 2015, HTC unveiled the next flagship device to
 11 incorporate the Snapdragon 810, the One M9, at the Mobile World Congress.
 12 Like LG’s G Flex 2, the One M9 was widely reported to have overheating
 13 problems that caused performance problems. Indeed, when an Antutu
 14 Benchmark test was run on the One M9 at its March 2 launch event to determine
 15 its heat benchmark score, the following message popped up on the smartphone
 16 before the test could record a score: ***“The device temperature is too high. Please***
 17 ***test again after cooling the device. Continued testing may cause the system to***
 18 ***restart or shut down.”***

19 151. Just two weeks later, on March 16, 2015, 9to5 Google issued an
 20 article titled, “HTC One M9 test shows 131 degree surface temp while running
 21 GFXBench,” which confirmed that the HTC One M9 was overheating due to the
 22 810. Specifically, the article provided:

23 ***It looks like there is definitely some truth to evidence suggesting***
 24 ***that the Snapdragon 810 has been facing some problems with***
 25 ***overheating. Dutch site Tweakers has taken the HTC One M9***
 26 ***through a series of tests, and it looks like overheating problems with***
 27 ***Qualcomm’s processor are still very much a valid concern.***
 28 Specifically, while running GFXBench, the site has recorded the
 HTC One M9 to have a surface temperature of around 55 degrees
 Celsius—or 131 degrees Fahrenheit.

1 152. The article included a thermal image of 5 phones all running the
 2 same benchmark test, with the One M9 emitting much greater heat than the other
 3 phones, which did not contain the 810. The article noted that “the thermal
 4 imaging above makes it clear that this isn’t just a normal amount of heat” and
 5 “[55 degrees Celsius or] 131 degrees Fahrenheit is definitely in realm of **‘painful**
 6 **to the touch.’”**

7 153. Another March 16, 2015 article from *Droid Life*, reported on the M9
 8 Benchmark testing and noted that, “***the One M9 runs insanely hot in comparison***
 9 ***to other devices running the same exact app.*** As seen in the image, the One M9
 10 peaked at 55.4 degrees Celsius, which equals over 130 degrees Fahrenheit. To
 11 the human touch, that could easily be enough to leave a mark. ***If you compared***
 12 ***regular bath water, 120 degrees Fahrenheit is considered to be scalding,***
 13 ***enough to damage human tissue.’”***

14 154. Two weeks later, on March 30, 2015, *ArsTechnica*, a sister
 15 publication of *Wired* and part of the Conde Nast Publications’ Wired Digital
 16 Group, issued an article titled, “HTC One M9 review: HTC’s flagship feels like
 17 an afterthought,” which confirmed that the One M9 “heavily throttled” due to the
 18 810 overheating. Specifically, the article reported that “The M9 is the first
 19 Snapdragon 810 device we’ve had a chance to look at, and, at least on this phone,
 20 ***the rumors of the 810s heat issues seem based in reality.’”***

21 155. The article went on to note that:

- 22 • “The heat means there is a lot of throttling going on, so much so that
 23 when the Snapdragon 810-powered M9 is warmed up, it will score
 24 lower in GeekBench than a Snapdragon 805 or 800.”
- 25 • “On Geekbench, we saw a whopping 30 percent performance drop
 26 when the M9 was warm.”
- 27 • “Given how hot the phone is, it’s really no surprise that the battery
 28 life is poor. It only lasted six hours and 15 minutes in our test.”

1 156. On April 23, 2015, *ArsTechnica*, issued another report titled, “**In-**
2 **depth with the Snapdragon 810’s Heat Problems; this is a hot chip that throttles**
3 **early and often, and it makes a difference.**” The report stated that LG’s G Flex 2
4 and HTC’s One M9 were tested and they “**definitely run hot, and performance**
5 **slows down quickly as you use the phone.**” Indeed, after running for a very short
6 period—*e.g.*, 30 seconds—the auto-shutdown feature for the four largest cores
7 (the A57s) kicked in, severely throttling the performance and speed of the device.

8 157. The article further reported that the testing results came from a
9 laboratory that had “been working on mobile SoC throttling tests for *Geekbench*
10 for a while now” and the testing approach used was a “new thermal test” that
11 “measures the CPU’s clock speed once every five seconds.” The testing involved
12 comparing the 810 to older Snapdragon SoC’s – the 800, 801 and 805 – and noted
13 that when the phones run at “2.0GHz for sustained periods, ... **the 810 throttles**
14 **so quickly that the 805 and even the 801 can beat the 810 when performing**
15 **sustained workloads.**”

16 158. The testers reported that “the Snapdragon 810 in LG’s G Flex 2
17 switched from its big [CPU] cores to its little [CPU] cores ... [and] ... almost
18 never reaches its top clock speed of 2.0GHz.” The “HTC One M9 acts a lot like
19 the G Flex 2—it rarely reaches its peak clock speed of 2.0GHz.” Both phones
20 spend most of their time between 850MHz and 1.2GHz, and such “throttling” is
21 necessary due to the 810’s overheating and the need to cool off.

22 159. By contrast, the testing demonstrated that the Exynos 7 Octa CPU,
23 which Samsung chose to include in the Galaxy S6 in lieu of the 810, *see infra* at
24 Section IV.I, with the same exact CPU core combination as the 810, could run at
25 2.1GHz for a couple minutes before throttling down and rarely “hop[s] to the
26 little cores” like the 810. The authors concluded that the Exynos 7 is “a better-
27 behaved chip all around.”
28

1 160. According to the *ArsTechnica* article:

2 Comparing the Exynos 7's big cores to the Snapdragon 810's big
3 cores really drives the point home. On paper, these two CPUs
4 should be near identical in performance. ***In practice, the 810
throttles so early and so severely that even people who are just
using their phones for a minute or two could run into slowdown.***

5 (d) **ZTE's Nubia Z9 Max and Axon Pro**

6 161. Chinese manufacturer ZTE released two new premium-tier Android
7 smartphones in Spring and Summer 2015—the Nubia Z9 Max and Axon Pro—
8 both of which contained the Snapdragon 810. Reports of the devices' overheating
9 began to surface immediately after their respective releases.

10 162. ZTE unveiled the Nubia Z9 Max on March 26, 2015 as the
11 Company's new "flagship" device. Just weeks after its May 2015 commercial
12 launch, *XiaomiToday* published an article on June 10, 2015, reporting that testing
13 of ZTE's Nubia Z9 Max showed evidence of overheating. Specifically, the
14 article reported:

15 ***Now, yet another device running the Snapdragon 810 chipset, the
16 recently launched Nubia Z9 Max from ZTE, is also overheating
like crazy.*** As can be seen from the images enclosed herein, with a
17 single A57 core running, the ***phone runs alarmingly hot*** with the
18 temperature reaching dangerously close to 100 degrees under full-
load, and with two A57 cores, the temperature goes through the roof,
19 hits 105 degrees and the device reboots. ***There are a number of
screenshots and test results at the bottom of this post that will
strongly support this assertion.***

20 163. Roughly one month later, the Company announced the Axon Pro,
21 which ZTE described as its first phone "designed in the U.S. for the U.S." But,
22 just like the Nubia Z9, the Axon Pro was plagued by overheating issues from the
23 810 from inception. On August 5, 2015, *Mashable.com* reported that "ZTE's
24 Axon Pro could have been a killer phone but there's one major flaw" – the 810.
25 The authors, having used and tested the new phone, stated that:

- 26 • The "ZTE had the right vision, but unfortunately, it picked the wrong
27 processor [the 810], and as a result, the entire phone experience goes
28 right out the window";

- The 810 is “a flawed chip”;
- The 810’s overheating problems “have ruined entire phones like the HTC One M9 and LG G Flex 2”;
- The Axon Pro “runs warm and sometimes hot ... [and] it gets unusually warm just from being used lightly”;
- “[T]he Axon Pro [cannot be used] for more than a few minutes without it toasting up your fingers”; and
- “[T]he 810 processor messes everything up. A phone should not get warm when you're barely using it, and it definitely shouldn't get hot when taking photos.”

(e) **Xiaomi’s Mi Note Pro**

164. Beijing-based Xiaomi said on January 15, 2015 that the 810 would be used in the Mi Note Pro, its largest, most expensive smartphone. However, while Xiaomi had initially announced a release date of March 2015, the phone was not actually released until May 2015. The delay of the release led some, like *Softpedia*, to speculate that “Xiaomi waited that long to launch the phone on the market so that it could fix the issues the Snapdragon 810 had been plagued with.”

165. The purported attempts to address the 810’s overheating problems failed as reports of overheating surfaced the very day that the Mi Note Pro was released to the market. Indeed, the technology website *Gizmo China* reported that immediately upon the release of the Mi Note Pro on May 13, 2015, Xiaomi received a slew of reports of “***both severe and general overheating problems***”:

Some users have reported ***severe cases of overheating*** that have led their devices to completely fail with burned motherboards while overheating on other Mi Note Pro units have led to display or touchscreen failure. There have also been reports that using the device while charging ended up overheating the device.

Many attest the overheating problems to the Qualcomm Snapdragon 810 processor that Xiaomi decided to use for the Note Pro. The Snapdragon 810 has become notorious for overheating with companies like Samsung opting to abandon the Snapdragon 810 in their flagship phones due to the heating issues although Qualcomm has denied these accusations.

Before the launch of the Mi Note Pro, Xiaomi said that the company ended up applying for five different thermal patents to

1 ***solve the overheating issues of the Snapdragon 810 but these***
 2 ***reports reveal that the issues might not have been solved at all.***
 3 Whether the overheating problems are still fixable through software
 4 updates is unlikely, but we'll have to wait to see how Xiaomi
 5 responds.

6 166. Notably, upon the release of the Mi Note Pro in May 2015, the
 7 Company issued a statement, conceding that the 810 generated excessive heat:

8 ***To solve the heating issue of Snapdragon 810,*** our engineers
 9 optimized the phone structure to dissipate the heat more evenly.
 10 Heat conductivity of CPU has been lifted and 4 graphite cooling fins
 11 are inserted inside, one of them being double-layered. Playing
 12 games for 20 minutes? The temperature on the back is 36.3°C, lower
 13 than that of human body. Xiaomi has applied for 5 heat conductivity
 14 patents.

15 167. Xiaomi's next flagship offering, the Mi 5, was supposed to be
 16 launched with the 810 in 2015, but chose to wait for its successor, the Snapdragon
 17 820, due to the 810's propensity to overheat. The June 18, 2015 *International*
 18 *Business Times* published an article titled "Snapdragon 810 Overheating
 19 Problems Delay Xiaomi Mi 5 Smartphone," that provides, in part:

20 Xiaomi is gearing up to release its flagship Mi 5 smartphone later
 21 this year. ***However, according to a recent report, the Mi 5 seems to***
 22 ***have overheating problems because of the Snapdragon 810 chip.***
 23 In the meantime, a recent *Forbes* report stated that the Mi 5 and Mi 5
 24 Plus will be powered by Qualcomm's upcoming Snapdragon 820
 25 chipset. By housing this chip, Xiaomi can eliminate the overheating
 26 problem specific to the notorious Snapdragon 810. But the
 27 unavoidable flipside would be a delay in the Mi 5 release date.

28 (f) Sony's Xperia Devices

168. Sony's flagship devices—the Xperia Z3+ (released worldwide),
 169 Xperia Z4 (released in Japan only), Xperia Z5 (released worldwide), and Xperia
 170 Z5 Compact (released in Asia)—were all plagued with overheating problems
 171 caused by the 810.

172 169. CW 5 recalled that CW 5's contact from Sony notified CW 5 that
 173 Sony was experiencing both thermal and power consumption issues with the 810
 174 in its Xperia Z4 device. When CW 5 reported these thermal and power issues in

1 December 2014 to Customer Support Engineers at the Company's San Diego
2 Headquarters, including specifically to a person with the first name "Gagan,"
3 Gagan was already aware of them.

4 170. CW 5, and a team of five to six other individuals, personally worked
5 with Sony to try to solve the power consumption issues Sony was experiencing
6 with the Xperia Z4. CW 5 recalled that Customer Support Engineers in San
7 Diego were simultaneously working to resolve these issues.

8 171. CW 5 stated during January and February 2015, CW 5
9 communicated with Sony almost every day. CW 5 stated that the
10 communications with Sony would occur face-to-face, by email, and by telephone.
11 CW 5 further stated that CW 5 maintained an excel spreadsheet tracking CW 5's
12 communications with Sony that identified: (i) the correspondence itself; (ii) the
13 issues discussed with Sony; and (iii) any proposed solutions. The discussions
14 between CW 5 and Sony continued through at least April 2015.

15 172. According to CW 5, Qualcomm suggested potential solutions for the
16 810, which included software configurations and customizations. CW 5 recalled
17 that Sony tried to add additional hardware to the device to solve the overheating
18 problem in the Xperia Z4. Given the amount of attention devoted to solving
19 Sony's issues with the 810, CW 5 characterized them as "serious."

20 173. CW 7 similarly confirmed that Sony witnessed and was "very
21 concerned" with the 810's overheating problem in the Xperia Z3+/Z4. CW 7 also
22 recalled that Verizon decided not to partner with Sony on its Xperia Z3+ or
23 Xperia Z4 devices on account of the overheating issues being experienced by the
24 810 in the devices. According to CW 7, Verizon's decision adversely affected
25 Sony's Xperia Z3+ and Z4 sales as Sony "couldn't sell" the phones.

26 174. In addition to CW 5's and CW 7's firsthand accounts, public reports
27 during the Class Period confirmed that the 810 overheated in Sony devices. On
28

1 March 9, 2015, *PhoneArena* released an article titled, “Sony allegedly battling
2 with Snapdragon 810 heat dissipation from the thin Xperia Z4.” The article
3 provided that according to an infamous technology industry “leakster,” “**Sony**
4 ***might be looking for engineering solutions to dissipate the arguably significant***
5 ***amount of heat that Snapdragon 810 generates.***”

6 175. On June 9, 2015, *PhoneArena* issued a report on the Xperia 4 and
7 Xperia 3+, which were both released on June 1, 2015. The article, titled “Revised
8 Qualcomm Snapdragon 810 no longer overheats? Video of a Sony Z3+ prototype
9 begs to differ,” noted that Qualcomm had supplied Sony with a new version of
10 the 810, v2.1. The authors stated, “[r]eportedly, this version of the Snapdragon
11 810 SoC does a better job at managing ***the heat generated by the chip.***” Despite
12 the reports, however, “***a video has surfaced showing that overheating issues are***
13 ***still present on the Sony Xperia Z3+. A couple of warnings pop up relating to***
14 ***high temperatures.***” One of the messages provides, “Note. ***Camera will now***
15 ***turn off temporarily to cool down.***”

16 176. A day later, June 10, 2015, *ZDNet* reported that DoCoMo, the largest
17 carrier in Japan, was placing an ***overheating warning label*** on devices with the
18 810. The devices included the Sony Xperia Z4, Sharp Aquos Zeta SA-03G, and
19 Fujitsu Arrows F-04G. The label gave customers advice to avoid overheating.

20 177. As one media outlet, *Mobileburn*, put it, “***It really is a disaster for***
21 ***Qualcomm, not to mention the manufacturers of the smartphones that will now***
22 ***be sold with a warning.***”
23
24
25
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178. Articles discussing the overheating of the 810 in Sony's smartphones continued to emerge. For example, on June 11, 2015 *Android Police* reported that users who purchased the Sony Z4 "are reportedly feeling a little burned, with many of them complaining about excessive heat. Some screenshots like the examples below show it hitting 60-68 degrees C. ***That's up to 154 degrees on the Fahrenheit scale—significantly higher than any phone I've seen.***"

ITEM	TEMPERATURE
tsens_tz_sensor7	66.0 °C
tsens_tz_sensor8	67.0 °C
tsens_tz_sensor9	65.0 °C
tsens_tz_sensor10	67.0 °C
tsens_tz_sensor11	58.0 °C
tsens_tz_sensor12	58.0 °C
tsens_tz_sensor13	68.0 °C
tsens_tz_sensor14	65.0 °C
tsens_tz_sensor15	65.0 °C
pm8994_tz	58.5 °C
msm_therm	52.9 °C
emmc_therm	54.2 °C
pa_therm0	50.0 °C
pa_therm1	51.0 °C
quiet_therm	38.0 °C
xo_therm	53.0 °C
battery	42.7 °C

ITEM	TEMPERATURE
bms	41.2 °C
tsens_tz_sensor0	55.0 °C
tsens_tz_sensor1	55.0 °C
tsens_tz_sensor2	55.0 °C
tsens_tz_sensor3	55.0 °C
tsens_tz_sensor4	55.0 °C
tsens_tz_sensor5	53.0 °C
tsens_tz_sensor6	55.0 °C
tsens_tz_sensor7	60.0 °C
tsens_tz_sensor8	60.0 °C
tsens_tz_sensor9	57.0 °C
tsens_tz_sensor10	60.0 °C
tsens_tz_sensor11	54.0 °C
tsens_tz_sensor12	54.0 °C
tsens_tz_sensor13	55.0 °C
tsens_tz_sensor14	57.0 °C
tsens_tz_sensor15	56.0 °C
pm8994_tz	52.7 °C
msm_therm	50.3 °C
emmc_therm	51.4 °C

179. *Pocket Now* posted an article on June 12, 2015 stating, in part, "Sony's Xperia Z4 has only just started hitting stores in Japan, and while it may be a very cool-looking smartphone, it sure doesn't sound like a cool-running handset; ***early reports have pegged the Z4 as falling into the old Snapdragon 810-overheating trap, with operating temperatures pushing 150F and retailers posting warning signs about going easy on the phone lest it run too hot. ...*** When reached for comment, *Sony seems to acknowledge the issue, recognizing that the high-end hardware can generate unwanted heat that can in certain cases impede software operation.*"

180. Also on June 12, 2015, *GSMInfo* posted an article titled, “Sony Xperia Z3+ has overheating problem.” The article stated that, “***Sony’s new flagship seems to have significant overheating problems.*** The Xperia Z3 + automatically cuts off some apps after the device is too warm.” The article made the overheating representation based on “tests” performed by *GSMInfo* and specified that “[w]hen using the camera or the use of other heavy applications, the device is quite warm. After a few minutes, a message appears on screen which warns that the app will be closed because the temperature of the Z3 + is too high...***The problems seem to be caused by the Qualcomm Snapdragon 810 processor that Sony uses. Other smartphones with that chipset, including the HTC One M9, suffered from overheating.***”

181. That same day, June 12, 2015, Sony admitted that its Xperia Z4 and Z3+ devices were overheating. *UberGizmo* posted an article “Sony Admits to Xperia Z4 & Experia Z3+ Overheating Issue,” which provides in part:

Sony has just admitted that there indeed is an overheating issue where the Sony Xperia Z4 is concerned, which also encompasses the Sony Xperia Z3+. Just what is the most common denominator between the two handsets? Well, both of them happen to be powered by the Qualcomm Snapdragon 810 SoC that has run into its fair share of overheating issues from the moment which it was introduced.

182. On June 15, 2015, *The Inquirer* similarly reported that “Sony admits Snapdragon 810 is causing Xperia Z3+ overheating issues.” The article went on to report that:

- “Sony acknowledged the overheating after it was detected in tests run by *GSMInfo* in the Netherlands [and referenced above], which found that the camera app crashed after a few minutes of video recording and that an unusual amount of heat was felt on the rear of the device.”
- Sony also “suggests powering off the phone several times a day while the fix is being readied, especially when charging the device” and “said that it will release a software fix in the summer to tackle the fault, which is a ***known problem seen in other handsets powered by the processor.***”

1 183. Technology experts reported that while the promised software update
 2 “will mitigate the overheating issue, [it] will also reduce the performance
 3 efficiency. So users will have to accept the flip side.” *See Sony Confirms the*
 4 *Overheating Problem of Xperia Z3,” Tech Entice*, June 14, 2015. In other words,
 5 in order to keep the 810 from overheating, Sony had to limit the performance and
 6 speed of its flagship devices.

7 184. Articles concerning overheating of the Xperia phones due to the 810
 8 continued to surface. For example, *KitGuru* reported, “The company [Sony] has
 9 come out and acknowledged that the Xperia Z3+ does have an overheating issue,
 10 ***which it then pinned on the Snapdragon 810.***”

11 185. *HotHardware* issued an article on June 14, 2015 titled, “Sony
 12 Confirms Overheating In Snapdragon 810-Powered Xperia Z3,” providing further
 13 evidence of the 810’s propensity to overheat and stating, “This has been an
 14 ongoing PR issue for Qualcomm. ***It’s the reason why Samsung opted for its own***
 15 ***homegrown Exynos 7420 System-on-Chip (SoC) instead for its Galaxy 6 and***
 16 ***Galaxy 6 Edge devices.***”

17 186. Overheating news concerning Sony’s flagship devices continued into
 18 July 2015, with *DigitalTrends* posting, “HANDS ON: SONY XPERIA Z3+;
 19 Sony is so sure the Xperia Z3+ will overheat, it warns you about it.” The post
 20 went on to report the author’s firsthand experience with the 810’s overheating
 21 problem:

22 Plenty has been said about the Snapdragon 810 processor that
 23 powers the Z3+, which reports have linked to overheating. ***Using***
 24 ***the camera for just a few minutes made the Xperia Z3+ very hot.***
 25 ***... This excess heat is a problem.*** No matter how gorgeous the
 26 phone, even the slightest chance it’ll have to be sent away for
 27 examination should put people off. ***It even has a warning***
 28 ***message appear about the device getting hot, and that apps may***
shut down because of it. ... Sadly, it’s just too hot to comfortably
hold.

1 187. Things got so bad for Sony's 810-powered devices that technology
 2 websites resorted to suggesting that its readers who owned these devices employ
 3 "do-it-yourself" or DIY fixes. For example, in one such July 23, 2015 posting,
 4 *Tech Times* reported that applying 6 layers of aluminum foil to the back of the
 5 Xperia Z3+ helped to address the overheating and resulting throttling:

6 Reports regarding Xperia Z3+ overheating issues started to pile up
 7 soon after the smartphone hit global availability. Sony tried to patch
 8 things up by issuing a software update, but eventually it was also
 9 forced to throttle the Xperia Z3+'s performance so it could maintain
 10 proper temperature levels.

11 A DIY fix, however, may be the answer to the overheating issues
 12 plaguing the Sony Xperia Z3+. A member of the XDA Developers
 13 Forum has apparently found an easy fix for the problem, requiring
 14 only some simple kitchen foil and a smartphone case.

15 188. After padding the phone with foil, the user ran three benchmark tests
 16 on the Sony phone and found that there was a smaller drop off in performance
 17 than without the foil. The article concluded, "It may not be the classiest of the
 18 prettiest solution for ***the Sony Xperia 3+ overheating issues***, but this simple DIY
 19 fix may nonetheless improve the handset's performance." *See also* July 23, 2015,
 20 *Gizmo China*, "Qualcomm Snapdragon 810 Heat and Performance Issues
 21 Alleviated by Foil" (providing further detail of the DIY testing results).

22 189. On September 4, 2015, *Phone Arena* reported that Sony's latest
 23 flagship offering with the 810, the Xperia Z5, also overheated—"[d]espite
 24 numerous reports about Qualcomm fixing overheating issues in the second
 25 version of its Snapdragon 810 system chip, ***we still find some evidence that the***
 26 ***issue persists on the Sony Xperia Z5*** at IFA 2015." The article noted that an
 27 "overheating, shutting app down" message appeared while simply using the
 28 camera on the Xperia Z5 as opposed to recording demanding 4K video.

190. More troubling was the fact that sources reported that Sony had
 taken extra precautions with the Xperia Z5 to avoid the overheating. The

1 technology website, *9to5Google*, reported on September 7, 2015 that Sony
2 attempted to combat the 810's propensity to overheat by employing a "dual pipe
3 system in the Z5 and the Z5 Premium to better dissipate heat from the [810]
4 processor to help it last longer before overheating."

5 191. This attempt to work around the 810's overheating flaw prompted
6 another technology site, *AptGadget.com*, on September 7, 2015, to state that the
7 dual pipe dispersion method "***offers some additional evidence that the***
8 ***Snapdragon 810 is a huge cause for concern.***" The post continued that Sony's
9 actions, like LG's switch to the Snapdragon 808 for the G4, OnePlus's public
10 promise that the OnePlus 2 would not overheat (*see infra*), and DoCoMo's
11 warning label, just serves to reinforce OEM "***suspensions about the [810]***
12 ***processor – as well as our own.***"

13 192. The authors aptly noted that the proposed "dual pipe" fix did not
14 change the fact that the Snapdragon 810, in fact, overheats: "Even if a second
15 heat pipe is added, it doesn't change the suspicions about the processor any more
16 than if someone placed a roof patch over a roof leak and claimed 'the roof will
17 not leak anymore.' ... We applaud Sony for trying to 'fan the flame away,' ***but***
18 ***the Snapdragon 810 is defective. . . . This is a situation where the processor, on***
19 ***which the phone relies for operation, is overheating.***"

20 193. On October 6, 2015, Tech Times reported that the newest Xperia
21 smartphone, the Xperia Z5 Compact, "***is apparently facing some overheating***
22 ***issues, and the Snapdragon 810 chipset is again considered the culprit.*** ...
23 Owners of the latest compact flagship from Sony have started to complain that
24 their phones are getting excessively hot, and this overheating could lead to other
25 issues." The article cited to (1) "reports out of China" claiming that the Xperia
26 Z5 Compact gets so hot at times that the screen becomes unable to register touch
27 input, and (2) a video illustrating the problem.
28

(g) **One Plus' OnePlus 2**

194. OnePlus introduced its OnePlus 2, which incorporated the Snapdragon 810, on January 28, 2015. The commercial launch of the OnePlus 2, however, was delayed until July 28, 2015 because of the 810's overheating issues. As reported in a January 23, 2015 *Forbes* article, "[s]ources have confirmed the choice of Qualcomm's SnapDragon 810, and indicated that the launch of the OnePlus 2 has been forced back into the third quarter of 2015 because of 'manufacturing challenges with the Snapdragon 810.'" These "manufacturing issues," *Forbes* reported, were the same overheating issues that reportedly caused Samsung to reject the 810 for the Galaxy S6. Thus, as it noted to consumers on June 17, 2015, OnePlus delayed the release of the OnePlus 2 so it could take "all the necessary precautions and beyond to prevent this [overheating] from occurring in the 2."

195. In attempting to address the 810's thermal issues, OnePlus represented that it "worked very closely with Qualcomm's engineers to integrate an improved version of the chipset (v2.1) in the OnePlus 2, and fine-tuned both hardware and software." Additionally, a June 18, 2015, posting by *Engadget* noted that "***thermal gel and graphite have been slathered liberally inside the [OnePlus 2] handset to further dissipate any excess heat.***"

196. In addition to the physical precautions, OnePlus, like Sony (*see supra*), decreased the speed of its flagship phone to prevent the 810 from overheating. As reported by *Droid Views* on August 3, 2015, the OnePlus 2 topped out at 1.8 GHz, rather than 2.0 GHz that the 810 was said to reach.

197. These measures, however, were futile as the OnePlus2 continued to feel the effects of the 810's overheating. Indeed, while the heat from the 810 decreased in certain cases, the limited CPU speed compromised the performance of the device. *See International Business Times*, "How to Resolve Overheating Issues on the Snapdragon 810 Powered Android Devices," August 4, 2015.

K. **While Denouncing Overheating Reports as “False Rumors,” Defendants tried to Fix the 810 and Expedited the Release of the 820 to Replace the 810**

198. As detailed below in Section VI, given the significant stock price decline following the loss of Samsung and the rampant reports of the 810’s thermal problems, Defendants embarked on a campaign to falsely assure the industry, analysts, and investors alike that the 810 was not overheating:

- February 2, 2015—five days after Qualcomm announced Samsung’s defection, it issued a press release titled, “Qualcomm Snapdragon 810 Processor Powers Premium-tier Mobile Experiences of 2015,” which included promotional statements by Renduchintala asserting that the 810 didn’t “compromise on performance, connectivity and entertainment,” and praise of the 810 from OEMs, including LG, HTC, Xiaomi and Sony.
- February 12, 2015—Qualcomm posted an article titled, “Snapdragon 810 processor: *cooler than ever*,” which purported to describe a “test” the Company had conducted to refute reports that the 810 had overheating problems. Significantly, the Company did not provide the results of its test of the CPU functional block.
- February 12, 2015—McDonough gave an interview to *Trusted Reviews* wherein he dismissed the reports of the 810’s thermal issues.
- May 6, 2015—McDonough gave another interview to *Forbes* magazine during which he called the rumors surrounding the 810 “rubbish” and claimed that “somebody decided to put out some false rumours.”
- June 30, 2015—McDonough represented to *ExtremeTech*, that, “The Snapdragon 810 processor is performing as expected and ***we have not observed any abnormal thermal issues.***”

199. In addition to the extensive evidence of overheating discussed above, Defendants’ denials were further belied by the following: (1) Qualcomm offered to provide Samsung with a modified 810 in an attempt to keep Samsung’s business; (2) Qualcomm issued an updated version of the 810 to various OEMs to address the 810’s propensity to overheat; and (3) Qualcomm expedited the creation of the Snapdragon 820 to replace the 810 one full year ahead of schedule.

200. Rumors that Qualcomm was planning to provide Samsung with a modified 810 surfaced in early 2015. On January 22, 2015, the *Wall Street Journal* reported that according to “[a] person familiar with the matter,” Qualcomm offered a “fix” to the 810’s overheating issues in the form of a modified 810 chip in an effort get Samsung to use it in their Galaxy S6. It was reported that the modified chip would be available to Samsung in March 2015.

201. *GSM Arena* confirmed the *Wall Street Journal* report on January 24, 2015, stating:

Industry insiders, however, have stated that Qualcomm is developing an updated version of the SoC for Samsung to use. The new release will be available to the Korean company in March, which poses the question whether the Snapdragon 810 will actually make it in time for the Galaxy S6.

The piece of news comes as a bit of an acknowledgement by Qualcomm of the chipset’s issues, which the company has strenuously denied so far.

202. *Android Authority* noted, however, on January 27, 2015, that Qualcomm would get itself into “hot water with other clients,” including LG and Xiaomi, if it were to modify the 810 design because that would effectively admit that Qualcomm sold LG and Xiaomi an overheating chip that they already had incorporated into the G Flex 2 and Mi Note Pro, respectively.

203. Likewise, the January 28, 2015 *Korea Times*, addressing “a number of reports. . . . stating that Qualcomm will provide a modified chipset to Samsung Electronics,” stated that:

Qualcomm may be caught in legal dispute with LG Electronics should it modify its latest Snapdragon 810 chipset, which allegedly has overheating issues, a source said. According to reports, Qualcomm plans to update the chip to fix these [sic] after Samsung Electronics decided to ditch the chip for its Galaxy S6 model. ***‘If Qualcomm officially confirms that it will modify the Snapdragon 810, it means that the company admits the chipset has a flaw.*** That could trigger legal disputes,’ the source close to the matter said. The Snapdragon 810 is already used in a number of top-tier smartphone

1 models including LG's G Flex 2 and the Xiaomi's Mi Note Pro. ***If***
 2 ***the rumor about the modification of the chipset by Qualcomm***
 3 ***proved to be true, it means that LG and Xiaomi's latest***
 4 ***smartphones use chips with overheating issues.***

5 204. While Qualcomm decided against providing Samsung with an
 6 updated version of the 810, it did provide other OEMs with a new version of the
 7 810 in the summer of 2015 to address its propensity to overheat—an event that
 8 occurs very rarely with chipsets (according to CW 2).

9 205. Indeed, reports emerged in June 2015 that Qualcomm had
 10 engineered a new version of the 810, v2.1, to address the 810's overheating
 11 problems. For example, OnePlus issued a press release on June 17, 2015,
 12 concerning its flagship OnePlus 2, stating, "Although there have been reports that
 13 the 810 runs warmer than its predecessors, we assure you that we have taken all
 14 the necessary precautions and beyond to prevent this from occurring in the 2. ***We***
 15 ***worked very closely with Qualcomm's engineers to integrate an improved***
 16 ***version of the chipset (v2.1) in the OnePlus 2,*** and fine-tuned both hardware and
 17 software."

18 206. In addition to Qualcomm's attempts to fix the 810, it also expedited
 19 the creation and release of its successor—the Snapdragon 820—to replace the
 20 810. As alleged above, in or around 2013, Qualcomm decided to move from the
 21 traditional one-year marketing and distribution schedule to a two-year schedule
 22 with the 810, wherein it would commercially distribute the 810 for two years
 23 before launching its next flagship SoC. Indeed, according to CW 2, a good chip
 24 can successfully remain in the market for three, even four years. According to
 25 CW 4, Qualcomm made this decision in order to cut the extraordinary cost
 26 associated with developing a new chip every year. In addition to the monetary
 27 expense, CW 4 further explained that the one-year cycle taxed Qualcomm
 28 employees, who were "getting burned out" by the constant pressure to produce
 new SoCs on an annual basis.

207. Qualcomm, however, began designing the 820 in the summer of 2014, officially unveiled it in March 2015, and made it commercially available in early 2016; ***an entire year ahead of schedule.*** According to CW 4, Renduchintala ordered the expedited design of and development schedule for the 820 and did so specifically because of the 810's thermal problems.

208. CW 4 also recalled that the 820 did not feature revolutionary technology—it simply reconfigured the cores and transistors of the 810 so that the chip would no longer overheat. Qualcomm effectively conceded that the 820 addressed the 810's thermal issues as McDonough posted the following on Twitter on November 5, 2015: the ***“820 is turning out amazing and meeting or beating OEM thermal requirements. You'll feel cool having an 820 phone.”***

209. By deliberately expediting the development and release of the Snapdragon 820 to avoid the 810's overheating problems, Qualcomm restored its relationship with its second-largest customer, Samsung. Indeed, while Samsung rejected the 810 for the Galaxy S6 because it overheated, it returned to Qualcomm and used the 820 in the Galaxy S7, which Samsung released in March 2016. *See* February 23, 2016, *The Los Angeles Times* (reporting that “[a]fter a year on the sidelines, Qualcomm Inc. has won back the key semiconductor slot in Samsung Electronic Co.'s latest flagship smartphones ... Samsung's new Galaxy S7 and S7 Edge”).

L. Post-Class Period Confirmation that the 810 Overheated and Defendants' Denials were False

210. When the dust finally settled after the Class Period, the technology community (1) universally attributed the problems encountered by the 810-powered flagship phones to the 810's propensity to overheat, and (2) rejected Defendants' claim that the 810 did not overheat. For example:

- On August 3, 2015, *DroidViews* reported that “when it comes to stability and endurance [the 810] was the worst SoC ever by Qualcomm.” The technology website added, ***“Tim McDonough***

covered up the issue on *FORBES* adding rumors [of overheating] are rubbish but it seems not true. The high end flagships are cursed with throttling and overheating when they are pushed to certain limits. The curse fell upon HTC M9, LG G Flex 2 and Sony Xperia Z3+.”

- On August 4, 2015, *I Digital Times* wrote, in part, “a history of reported overheating issues has tarnished the chip’s reputation. ... ***The issues that plague the HTC One M9, Xperia Z3+, and LG G Flex 2 are real and a real pain.***”
- On October 7, 2015, *SoftPedia.com*, reflected on the 810’s history, stating, “[y]ou might have gotten tired of hearing it, but Qualcomm’s Snapdragon 810 chipset for premium devices qualifies for the title of biggest flop of this year. ***The SoC has an overheating problem that doesn’t seem to go away no matter how creative OEMs get in trying to dissipate the extra heat.***”

211. The technology website *AptGadget.com* neatly summed up the 810’s messy history on September 15, 2015, undermining Defendants’ representation that the 810 performed well and did not overheat:

Overheating phones that feel “oven-baked,” camera apps crashing on even Sony’s Xperia Z3 and Z4 smartphones, not to mention random reboots and sudden screen deaths from other smartphones, and HTC’s overheating One M9 that mandated a thermal update to the device’s software are all examples of the havoc a bad processor can wreak upon the smartphone industry. ***The Snapdragon 810 has been the “taboo” processor in the industry*** in recent days, with many manufacturers such as OnePlus having to promise that its OnePlus 2 wouldn’t overheat on stage during its OnePlus 2 announcement. LG ditched it and went with the Snapdragon 808 for its G4, to avoid the overheating risks associated with the processor.

V. DEFENDANTS’ MATERIALLY FALSE AND MISLEADING STATEMENTS AND OMISSIONS OF MATERIAL FACT

212. As set forth in ¶¶ 60-62, *supra*, the highly-profitable Snapdragon 810 was Qualcomm’s marquee product during the Class Period and, accordingly, its perceived success was highly material to investors and crucial to Qualcomm’s overall growth. The Snapdragon 810 also was intended to “epitomize[] [Qualcomm’s] premium-tier leadership” for 64-bit, 4G/LTE chipsets, and be utilized in the premier-tier smartphones for some of the largest OEMs in the world, including Samsung, LG, HTC, Sony, ZTE, OnePlus, and Xiaomi, creating

1 a superior business position that was closely watched by investors. As a result,
 2 Defendants' representations, set forth below in ¶¶216-217, 222-226, 232-233,
 3 238-241, 244-247, 249-252, 258-263, repeatedly touting the power, speed,
 4 functionality, and overall success of the Snapdragon 810 processor, denying that
 5 the Snapdragon 810 had any abnormal thermal issues, and denying that OEMs
 6 were encountering problems with and abandoning the 810 because of those
 7 overheating problems, were highly material to investors.

8 **A. The November and December 2014 Misleading Statements**
 9 **Regarding OEM Acceptance of the 810**

10 213. As noted above, Samsung had used Snapdragon processors in each
 11 of its Galaxy flagship phones since 2011. See ¶ 106, *infra*. Given Samsung's
 12 history of using Qualcomm's Snapdragon SoCs in the Galaxy S series, the market
 13 expected Samsung to include the 810 in its Galaxy S6 as soon as the 810 was
 14 unveiled in April 2014. See ¶ 107; April 9, 2014, *Tech 2* ("we can expect th[e]
 15 810] debut in Samsung's Galaxy S6 next year."); May 21, 2014, *Motley Fool*
 16 ("the timing really does suggest that [the Snapdragon 810]'s going to be ready for
 17 the launches of next-generation 'hero' phones like the Samsung Galaxy S6[.]")

18 214. The market's expectation that the 810 would power the Galaxy S6
 19 continued throughout 2014. For example, in an October 27, 2014 article, the
 20 *International Business Times* reported that the Galaxy S6 "is [] expected to boast
 21 Qualcomm's latest 20-nanometer class—64-bit architecture based silicon chip—
 22 Snapdragon 810 series Octo-core CPU[.]” On the same day, *Gadgets 360*
 23 likewise commented that “[a]nother major upgrade expected in the Samsung
 24 Galaxy S6 is under the hood, as the smartphone is tipped to be powered by a 64-
 25 bit Qualcomm Snapdragon 810 processor.”

26 215. On November 19, 2014, the start date of the Class Period,
 27 Defendants effectively confirmed the market's expectation that Samsung would
 28 use the 810 in the Galaxy S6 despite knowing that it would not.

1 216. Specifically, on November 19, 2014, Qualcomm held its 2014
 2 Analyst Meeting in New York. During the meeting, Amon represented that the
 3 rate of inclusion of the Snapdragon 810 in premium-tier OEM devices was an
 4 “important metric,” *i.e.*, was material, to Qualcomm and boasted about the rate of
 5 OEM inclusion of Qualcomm’s premium-tier processors:

6 Snapdragon traction, I think we talk about that every year and it’s a
 7 **very important metric** for us. I think [I’ll] start with the premium-
 8 tier. Snapdragon processors continue to set the design point for the
 9 premium-tier **has been a number of flagship devices across many of**
the OEMs. I won’t list them all, but I think it’s very clear that we’ll
 be able to maintain our leadership position in the premium-tier.

10 217. On December 2, 2014, Qualcomm posted an article on its corporate
 11 website titled, “Get to know the Snapdragon 810 processor,” which also focused
 12 on OEM acceptance of the 810. A link to this entry also is one of two
 13 Snapdragon entries featured prominently on the Company’s product webpage for
 14 the Snapdragon 810. According to the article:

15 **Many of the flagship smartphones released next year are expected**
 16 **to be built around Qualcomm® Snapdragon™ 810 processors**
 17 which means they’ll include a variety of features designed to give
 you the most cutting-edge experience possible.

18 218. Analysts at Canaccord seized on Defendants’ representations
 19 concerning OEM acceptance of the 810 in a December 3, 2014 report:

20 During Qualcomm’s analyst day on November 19, we were
 21 impressed by the QCT presentations from Cristiano Amon and
 22 Murthy Reduchintala regarding Qualcomm’s competitive position in
 23 the market and its leadership position in fully integrated application
 24 processor and modem technologies through its multi-mode LTE-
 25 Advanced/LTE/HSPA+/EV-DO solutions. Based on continued
 26 Snapdragon and thin modem momentum in F2015 [among other
 27 things] we anticipate healthy QCT sales growth during the next
 28 several years. Given Qualcomm’s new high-tier thin modem
 introduction on November 19, with subsequent next-gen Snapdragon
 SoCs leveraging this leading baseband architecture expected to
 follow soon, **we anticipate these higher-ASP and likely better**
margin chipsets will ship in volume into next-gen leading global
smartphone programs at Samsung and at other leading
smartphone OEMs in 1H/F’15 time frame.

1 219. Likewise, on December 4, 2014, *BGR* noted that “[h]andsets like the
2 Galaxy S6” were likely to be powered by the 810. On the same day, *SamMobile*
3 reported that “the 64-bit Snapdragon 810 chip is expected to power most of the
4 major flagship lineups in the Android World, including the Galaxy S6.”

5 220. Defendants’ statements set forth above in ¶¶ 216-217, including
6 Defendants’ assertions that: (i) the Snapdragon 810 would be included in “a
7 number of flagship devices across many of the OEMs”; and (ii) “[m]any of the
8 flagship smartphones released next year are expected to be built around
9 Qualcomm® Snapdragon™ 810 processors,” omitted to disclose and were
10 materially misleading because, in the face of the market’s long-held expectation
11 that the Galaxy S6 would be powered by the 810, see ¶¶ 106-107, *supra*,
12 Defendants knew or were deliberately reckless in not knowing that, by no later
13 than October 2014, Samsung, Qualcomm’s second largest customer since 2011,
14 had decided not to use the 810 in the Galaxy S6 specifically because the 810
15 overheated. Specifically:

- 16 • CW 2 stated that news that Samsung was aware of the 810’s
17 overheating issues and was planning to use its own proprietary chip
18 as a result began circulating within Qualcomm in August 2014, see ¶
19 108, *supra*;
- 20 • CW 1 reported that, by 3Q14, colleagues and co-workers were
21 stating that Samsung was dropping the Snapdragon 810 because of
22 the overheating issues with the 810, see ¶ 108, *supra*;
- 23 • CW 2 stated that, by no later than October 2014, CW 2’s counterpart
24 at Samsung told CW 2 that that Samsung was not using the 810
25 because it overheated, see ¶ 109, *supra*;
- 26 • CW 2 stated that, within one to two weeks of CW 2’s meeting with
27 CW 2’s Samsung counterpart, CW 2 relayed the information about
28 Samsung’s claim that it would not use the 810 due to overheating to
Renduchintala, who subsequently confirmed to CW 2 that Samsung
was not going to use the 810, see ¶ 110, *supra*;
- CW 6 confirmed that Samsung specifically raised with Qualcomm
the 810’s overheating issues that Samsung experienced during its
testing of the chip and deliberation over whether to use the 810 in the
Galaxy S6, see ¶ 111, *supra*;

- 1 • CW 6 reported that CW 6's team was charged, pursuant to its
2 general practice, to continue working with Samsung to resolve the
3 thermal issues up to the time when Samsung informed Qualcomm
4 that it would not be using the 810, and that, as with any large
5 customer, it was Qualcomm's normal practice to try to convince
6 Samsung to reconsider, *see* ¶ 111, *supra*;
- 7 • CW 8 learned in early 2015, from other Qualcomm engineers who
8 worked on the 810's overheating issues, that Samsung had cited
9 overheating as a reason it abandoned the 810, and that loss caused a
10 "big blow up" at the Company, which ultimately caused layoffs, *see*
11 ¶ 112, *supra*;
- 12 • Industry publications reported in early 2015 that Qualcomm offered
13 Samsung a modified 810 to retain its business, *see* ¶¶ 200-203,
14 *supra*;
- 15 • Multiple publications including *Business Korea*, *Barron's*, and
16 *Bloomberg* published articles citing, *inter alia*, internal sources who
17 confirmed that Samsung chose not to use the 810 due to overheating
18 encountered during testing, *see* ¶¶ 122, 125-129, *supra*; and
- 19 • Samsung used a premium-tier Snapdragon SoC in every Galaxy S
20 phone, starting in 2011, and ultimately returned to Qualcomm by
21 incorporating the Snapdragon 820 in the Galaxy S7, further
22 supporting the fact that Samsung chose not to use the 810 because it
23 overheated, *see* ¶¶ 206-209, *supra*.

24 **B. December 2014 and January 2015 Statements Misleadingly**
25 **Denying Rumors of Overheating**

26 221. As noted above, on December 4, 2014, *Business Korea* published an
27 article titled, "Unexpected Hurdle: Problems in Qualcomm Snapdragon Set
28 Alarm Bells Ringing for Samsung, LG," which reported that according to an
internal source "[t]he Snapdragon overheats when it reaches a specific voltage"
and for that reason, among others, it was "unclear if the Snapdragon 810 will be
used in premium smartphones like the Galaxy S6, the G4, and the Xperia Z4."

222. In response, Qualcomm issued a barrage of denials. On December 8,
2014, *TechRadar* published an article titled, "Galaxy S6 and LG G4 facing delays
thanks to Snapdragon 810 defects?" which included a statement from Qualcomm
debunking reports of overheating problems with the 810 and possible OEM
defection first published by *Business Korea*: "We won't comment on any of the
rumor or speculation you referenced but I can tell you that *everything with*

1 ***Snapdragon 810 remains on track*** and we expect commercial devices to be
2 available in 1H 2015.”

3 223. On the same day, *Gadgets 360* also posted an article, titled
4 “Qualcomm Rubbish Rumours of Snapdragon 810 Delays and Issues,” stating:

5 Following last week’s report that Qualcomm is facing several issues
6 with its Snapdragon 810 chipset that might cause a delay in its
7 rollout, Jon Carvill, Senior Director of Public Relations at
8 Qualcomm, finally cleared the air by ***stating that everything is on***
9 ***track.***

10 Carvill refused to give his take on the several speculations, but said
11 that, ***“I can tell you that everything with Snapdragon 810 remains***
12 ***on track and we expect commercial devices to be available in 1H***
13 ***2015.”***

14 224. Also on the same day, *Tom’s Hardware* posted an article titled,
15 “Snapdragon 810 May Face Delays, But Qualcomm Denies Rumors Are True,”
16 stating, ***“Qualcomm has denied that any of these [Business Korea] rumors are***
17 ***true*** in a short but clear statement to *Tom’s Hardware*: ***‘Snapdragon 810 remains***
18 ***on track and we expect commercial devices to be available in 1H 2015.’***

19 225. Qualcomm officially unveiled the Snapdragon 810 at the January 5,
20 2015 Consumer Electronics Show (CES). During a Q&A at Qualcomm’s CES
21 press conference posted on www.anandtech.com, Aberle continued toeing the
22 Company line in response to a specific question concerning the 810’s reported
23 functionality problems, stating ***“We’re on track with the 810.”***

24 226. On January 7, 2015, *Tom’s Hardware* updated an earlier article to
25 include a further denial from Qualcomm’s VP of Product Management, Tim
26 Leland: “We had an opportunity to speak with Tim Leland . . . about these
27 rumors regarding Snapdragon 810’s performance. According to him, while there
28 are always engineering challenges to overcome when bringing new technology to
market, ***there aren’t any significant technical issues that will cause a delay.***”

227. The denials worked as analysts continued to report that Samsung was poised to use the 810 in the Galaxy S6, as they had done since before the start of the Class Period. For example, on December 9, 2014, *Softpedia* reported that “the Snapdragon 810 has been said to power upcoming flagship smartphones like the Galaxy S6.” *Softpedia* further commented, “[a]t some point some voices raised concerns that the Snapdragon 810 chip might get delayed, thus hindering the launch schedule of Samsung Galaxy S6 and LG G4, but yesterday Qualcomm’s own Senior Director assured everybody that the launch of the new chip remains on track for 1H.”

228. Likewise, on January 10, 2015, Morningstar issued a report titled, “Qualcomm’s Chip Market Share Appears Solid Despite CES Announcements From Rivals,” noting that “design wins into Apple’s iPhones and Samsung’s Galaxy S devices will be more important products in terms of gauging Qualcomm’s chip market over time.”

229. The comfort statements set forth above in ¶¶ 222-226, including Defendants’: (i) affirmative denials of the overheating rumors; (ii) repeated claims that everything with Snapdragon 810 remained “on track”; and (iii) representations that “there aren’t any significant technical issues that will cause a delay,” omitted to disclose and were materially false and misleading because Defendants knew or were deliberately reckless in not knowing that the 810 suffered from overheating issues throughout the Company’s 2014 testing of the chip that were never remedied, and extensive evidence of continued overheating in the 810 surfaced throughout 2015, demonstrating that the Snapdragon 810 was overheating as of the dates of the statements. In particular:

- CW 3 stated that the Product Test Group was brought in early to test the 810 in March 2014. According to CW 3, the Product Test Group can be brought in early to test for big picture issues because the Product Test Group had a better reputation for identifying problems with a mobile processor than the Software Component Test Group, see ¶ 78, *supra*;

- 1 • CW 3 reported that weekly snapshot emails from March to
2 December 2014, which regularly were sent to Renduchintala by no
later than July 2014, showed that the 810 overheated and was not
fixed prior to its commercial launch, see ¶¶ 79-80, *supra*;
- 3 • CW 4 confirmed that starting in late April or early May 2014 the
4 *Daily Audit Logs*, which were generated from testing conducted on
the MTP device farms, identified the scope of the 810's thermal
5 problems. CW 4 recalled that these audit logs reported that,
primarily due to thermal issues, the MTP devices: (i) exhibited
6 abnormally high CPTH, (ii) were crashing up to 1,000 times per
night, (iii) never met certain MTBF thresholds, and (iv) would not
7 last more than an hour without failing, see ¶¶ 84-85, *supra*;
- 8 • CW 4 reported that the data from the *Daily Audit Logs*, including the
general root cause of each MTP failure, reset, or restart, was
9 consolidated into *PDT Reports*, which were (i) generated daily, as
well as after a milestone was reached for a specific software build,
10 and (ii) often sent directly to Renduchintala and Amon, see ¶ 86,
supra;
- 11 • CW 4 stated that, during testing in May or June 2014, the the 810's
12 thermal issues were so pervasive that Qualcomm created a specific
metric to identify the number of CPTH that were due to thermal
13 problems. This metric was included in the reports provided to
Renduchintala and Amon, among others, in advance of the Bi-
14 Weekly Executive Meetings and in the CSRR materials circulated to
at least Renduchintala and Amon prior to these meetings, see ¶ 87,
15 *supra*;
- 16 • CW 2 confirmed that reports addressing the Snapdragon 810's
thermal issues, including Sub-System Reports for each of the 810's
17 software sub-systems, were generated daily starting in May 2014,
see ¶ 88, *supra*;
- 18 • CW 2 and CW 4 recalled receiving so-called *Root Cause Analysis*
19 *Reports*, and CW 3 and CW 4 recalled receiving so-called *Thermal*
Engineering Test Reports—which documented the 810's thermal
20 issues and were sent to Qualcomm management, according to CW 3.
CW 3 specifically recalled that the *Thermal Engineering Test*
21 *Reports* were sent to Renduchintala, among other executives, see ¶
88, *supra*;
- 22 • CW 2 and CW 4 reported that they participated in Daily Target
23 Scrum Meetings from May through at least 2014 during which,
according to CW 2, the 810's testing results, including the
24 abnormally high number of crashes observed with devices carrying
the 810, were discussed. CW 2 recalled that Renduchintala was
25 attending these daily meetings by December 2014. CW 4 also stated
that team leads met daily during this same time period at 10 am to
26 discuss the overnight testing results and for the Daily Team Lead
Meetings to further discuss and attempt to resolve the 810's thermal
27 issues raised during the 10 am meeting, see ¶¶ 90-91, 104, *supra*;

- 1 • CW 2 recalled attending Weekly Status Meetings beginning in May 2014. CW 3 also recalled attending weekly meetings. CW 2
2 specifically recalled that Weekly Status Reports regarding the 810,
3 which included the plans for the 810 for the following week, were
4 presented and discussed during these meetings, *see* ¶ 92, *supra*;
- 5 • CW 2 reported that CW 2, Pal, and Renduchintala, among others,
6 attended Weekly Principals Meetings, beginning in or around May
7 2014, during which slides regarding the 810's overheating problems
8 were presented, *see* ¶ 93, *supra*;
- 9 • CW 4 stated that, beginning in May 2014, CW 4, Defendant
10 Rendchintala and QCT executives (including at times, Defendant
11 Amon), met twice a week for Bi-Weekly Executive Meetings to
12 discuss the problems with the 810, including its thermal issues. CW
13 4 also stated that, prior to each meeting, all meeting participants,
14 including Defendants Renduchintala and Amon, received an email
15 with a summary of the issues to be discussed at the meeting and the
16 raw testing data for the 810, including its thermal issues and the new
17 metric tracking the CPTH caused by the 810 overheating, *see* ¶¶ 94-
18 95, *supra*;
- 19 • CW 3 recalled that, by July 2014, that (i) "everyone was in a panic"
20 about the number of issues with the 810 and (ii) Qualcomm was
21 directing an unusually large amount of resources and performing an
22 abnormal amount of testing/software builds to attempt to fix the
23 thermal issues. Despite these efforts the 810 continued to overheat,
24 *see* ¶¶ 98-99, *supra*;
- 25 • CW 2 confirmed that Renduchintala called for more resources to be
26 directed to address the 810's thermal issues, *see* ¶ 98, *supra*;
- 27 • CW 2 further stated that, by August of 2014, reports were circulating
28 that the 810's commercial sample was overheating in OEM devices,
see ¶¶ 101, 108, *supra*;
- CW 2 recalled that OEM customer testing reports during the
Commercial Sampling phase documented overheating and instability
issues, and that the OEMs had determined that the overheating was
not caused by their mobile devices, *see* ¶ 101, *supra*;
- CW 6 confirmed that Samsung specifically raised with Qualcomm
the overheating issues with the 810 that the OEM experienced during
its testing of the chip and its deliberation over whether to use the 810
in the Galaxy S6, *see* ¶¶ 106, 111, *supra*;
- CW 2, CW 3, and CW 4 each confirmed that Qualcomm continued
to perform tests on the 810 during the Commercial Sampling phase.
According to CW 2, in almost every instance, Qualcomm confirmed
that the cause for the observed thermal problems was not the OEMs'
devices, *see* ¶ 102, *supra*;
- CW 1 recalled that, in September/October 2014, there were internal
discussions at Qualcomm about thermal issues with the Snapdragon
810, *see* ¶ 103, *supra*;

- 1 • CW 2 reported that, between September 2014 and November 2014, Renduchintala specifically raised questions regarding the 810's
2 abnormal thermal issues, and participated in *ad hoc* conference calls
3 during which Pal referred to the 810 as a "piece of crap" and Renduchintala asked, "What is the root cause of the thermal issues?"
4 For calls which Renduchintala could not attend, CW 2 understood that the overheating information provided by CW 2 and the other
5 participants was provided to Renduchintala by Pal, *see* ¶ 104, *supra*;
- 6 • By October 2014, Samsung had decided and informed Qualcomm
7 that it would not be using the 810 in the Galaxy S6 because it
8 overheated, *see* ¶ 220, *supra*;
- 9 • CW 4 recalled that, during an "all hands" Company meeting in
10 November 2014, Mollenkopf admitted that the 810 was continuing
11 to overheat and that the problems with the 810 would adversely
12 affect Qualcomm financially, *see* ¶ 116, *supra*;
- 13 • CW 4 stated that, during an "all hands" QCT meeting in November
14 2014, Renduchintala discussed the thermal issues with the 810 and
15 next steps in trying to address the issues, *see* ¶ 117, *supra*;
- 16 • CW 3 stated that, during November/December 2014, Defendant
17 Renduchintala received daily written reports. By December 2014,
18 the "bulk" of these reports discussed the 810's still unresolved
19 thermal issues, *see* ¶ 104, *supra*;
- 20 • CW 3 stated that CW 3 reviewed, and retrieved for his supervisor,
21 documents during the December 2014 CSRR process, which
22 revealed that Qualcomm had still not resolved the overheating
23 problems first identified by the Product Test Group in March 2014,
24 *see* ¶¶ 104, 121, *supra*;
- 25 • In November and December 2014, the 810's abnormally high CPTH
26 and abnormally low MTBF due to the 810's thermal issues—the
27 same metrics that were present when the MTP devices were crashing
28 1,000 times per night and failing every hour due to the 810
overheating—were discussed at CSRR meetings and dismissed in
favor of releasing the 810 for commercial production with thermal
issues, *see* ¶¶ 120-121, *supra*;
- CW 8 recalled that several of CW 8's colleagues informed CW 8 that
the 810 was experiencing overheating issues, and CW 8's colleagues
had to work through the 2014 Christmas holidays because of the
810's ongoing overheating problems, *see* ¶ 105, *supra*;
- CW 2 and CW 3 recalled that Qualcomm released the 810 to LG for
inclusion in the G Flex 2 in January 2015 despite the fact that the
commercial version of the 810 had known thermal issues, *see* ¶¶ 121,
141, *supra*;
- CW 9 recalled that Renduchintala flew to Korea to beg LG to use the
810 after Samsung rejected the 810 because it overheated, *see* ¶ 141,
supra;

- 1 • Immediately after the G Flex 2 was released, many users complained
2 that their smartphones running on the 810 were operating slowly and
3 resetting, *see* ¶ 142, *supra*;
- 4 • Based on independent testing and information from internal sources,
5 myriad articles issued throughout 2015 reported that the
6 commercially-released 810 overheated, leading to performance
7 problems in all of the 810-powered devices, *see* ¶¶ 143-144, 149-
8 166, 168, 174-197, *supra*;
- 9 • Several OEMs, including Xiaomi and OnePlus (who announced the
10 releases of the Mi Note Pro and OnePlus 2, respectively, in January
11 2015), delayed the launch of devices using the 810 in an attempt to
12 resolve the overheating, *see* ¶¶ 164, 194, *supra*;
- 13 • CW 5 stated that CW 5's contact from Sony, notified CW 5 that
14 Sony was experiencing thermal and power consumption issues with
15 the 810 in Sony's devices, which CW 5 reported to Qualcomm in
16 December 2014, and, from January through April 2015, Qualcomm
17 invested substantial resources in an unsuccessful effort to resolve
18 Sony's issues, *see* ¶¶ 169-172, *supra*;
- 19 • CW 7 similarly confirmed that Sony witnessed and was "very
20 concerned" with the commercial version of the 810's overheating
21 problem in the Xperia Z3+/Z4, *see* ¶¶ 173, *supra*;
- 22 • Qualcomm offered Samsung a modified commercial version of the
23 810 in early 2015 in an unsuccessful attempt to retain the Galaxy S6
24 business, *see* ¶¶ 200-203, *supra*; and
- 25 • Renduchintala expedited the development of the Snapdragon 820
26 one year ahead of schedule as a replacement for the 810 due to its
27 overheating issues, *see* ¶¶ 206-208, *supra*.

28 230. Defendants' denials of the rumors that Samsung may not use the 810 and repeated assertions that everything with the 810 was "on track" also omitted to disclose and were materially false and misleading for the reasons detailed in ¶ 220, *supra*. Indeed, in the face of the market's long-held expectation that the Galaxy S6 would be powered by the 810, *see* ¶¶ 106-107, *supra*, Defendants knew or were deliberately reckless in not knowing that, by no later than October 2014, Samsung, Qualcomm's second largest customer since 2011, had decided not to use the 810 in the Galaxy S6 specifically because the 810 overheated.

C. **The January 28, 2015 False and Misleading Statements and Omissions**

231. On January 28, 2015, Qualcomm announced its financial results for three months ended December 28, 2014, holding a same-day conference call for analysts to discuss the results (the “1Q15 Conference Call”).

232. During the 1Q15 Conference Call, Mollenkopf advised the market that a large OEM (i.e., Samsung) was not going to use the 810 in its flagship device (i.e., the Galaxy S6), but represented that (1) “**Snapdragon 810 is performing well**, and we look forward to a growing number of devices to be launched by our customers throughout the year”; and (2) “**the 810 is actually doing quite well. Any concerns about the 810 in terms of design traction really are probably limited to one OEM versus anything else.**”

233. Mollenkopf also assured investors of the functionality of the 810 during the Q & A session with market analysts on the call. For example, he had the following exchange with Citigroup analyst, Ehud Gelblum (“Gelblum”) regarding the Snapdragon 810:

GELBLUM: can we just hit at the heart of the 810 issue? **Has obviously been a lot of news in the press about overheating.** If we could just kind of hit on – is it your – just want to confirm is it your opinion or thought process that the issues with that flagship device happened on a compatibility issue or incompatibility issue between the 810 and that particular device and that any other device, those issues are not a concern? If you could just give us a little detail on why that might be to let us kind of get a feeling as to maybe there is nothing particularly wrong with the 810 per se, but that it just happened to be a matchup with that one device – that would be helpful...

MOLLENKOPF: **...On the 810, I’ll be very clear, this device is working the way that we expected to work** and we have design traction that reflects that.

We – **there is concern, as you mentioned, it’s really related to one OEM....**

234. The statements set forth above in ¶¶ 232-233, including Defendants’: (i) affirmative representations that the 810 was “performing well,” “doing quite well,” or “working the way [Defendants] expected”; (ii) denials that the 810 was

overheating; and (iii) assertions that “any concerns” with the 810 were “limited to” or “related to one OEM,” omitted to disclose and were materially false and misleading for the reasons detailed in ¶ 229, *supra*, and for the following additional reasons:

- LG’s G Flex 2 was severely throttling, resetting, and suffering from slow performance due to the fact that the 810 overheated, and Qualcomm was directing substantial resources in resolving similar issues experienced by the 810 utilized in Sony’s Xperia series of phones, *see* ¶¶ 142-144, 149, 168-173, *supra*;
- The release of Xiaomi’s Mi Note Pro and OnePlus’s OnePlus2 were delayed for three to six months while these OEMs and Qualcomm attempted to remedy or, at least, workaround the effects of the 810’s overheating on the performance of these devices, *see* ¶¶ 164-166, 194-197, 204-205 *supra*;
- Qualcomm contemplated and, in fact, issued a new version of the commercial 810 to address its abnormal thermal issues. Specifically, Qualcomm offered Samsung a new version of the 810 in early 2015 to capture its Galaxy S6 business, but decided against it to avoid litigation with LG and Xiaomi, *see* ¶¶ 200-203, *supra*, and Qualcomm worked with OnePlus to create the Snapdragon 810 v2.1 for the OnePlus 2, *see* ¶¶ 204-205, *supra*;

235. Moreover, Defendants’ suggestions that the loss of Samsung was not due to the 810’s overheating issues were materially false and misleading for the reasons detailed in ¶ 220, *supra*. Indeed, in the face of the market’s long-held expectation that the Galaxy S6 would be powered by the 810, *see supra* ¶¶ 106-107, Defendants knew or were deliberately reckless in not knowing and concealed the fact that, by no later than October 2014, Samsung, Qualcomm’s second largest customer since 2011, had decided not to use the 810 in the Galaxy S6 specifically because the 810 overheated.

236. Market analysts regurgitated Defendants’ misrepresentations, including that: (i) the 810 was not suffering from an overheating flaw; (ii) Samsung’s rejection of the Snapdragon 810 for the Galaxy S6 was unrelated to its propensity to overheat; and (iii) that the 810 was not adversely impacting other OEMs. Deutsche Bank, for instance, reported that “[t]he loss of a socket at

1 Samsung was a clear negative for their SOC; however we do not believe it is as
 2 bad as feared. **Management noted on the call that the loss was likely not due to**
 3 **the 810 overheating**, but rather the lack of differentiation with their application
 4 processor. Samsung has a substitute (e.g. Exynos), where other OEMs do not.”

5 237. Similarly, on January 30, 2015, Morningstar noted that “[d]espite the
 6 Samsung loss, we still see Qualcomm remaining the clear-cut wireless chip leader
 7 for the foreseeable future, and tend to think of the 810 issue as isolated in nature.”
 8 The next day, Morningstar added: “[r]eports suggest that Qualcomm’s
 9 Snapdragon 810 chip was overheating, causing Qualcomm to make the switch,
 10 but we think the jury is still out on the root cause of Samsung’s switch. Other
 11 OEMs are adopting the 810 in their flagship phones, while Samsung has incentive
 12 to switch to internal processors for potential cost savings. We don’t anticipate
 13 Qualcomm losing many more key customers or having production quality issues
 14 in future chipsets.”

15 D. **January 29, 2015 – February 2, 2015 Statements Misleadingly**
 16 **Denying Rumors of Overheating**

17 238. On January 29, 2015, *Re/code* published an article titled “Qualcomm
 18 Exec Denies Any Problems With Snapdragon 810,” which quoted Amon as
 19 saying **“We don’t see any problem with the 810. . . . I think there is a lot of**
 20 **misinformation out there.”** *Re/code* stated that Amon “also added that the
 21 company isn’t making any special versions of the 810, as had been rumored, and
 22 that the existing chip is **‘performing very well.’”**

23 239. On January 31, 2015, *CNET* published an article titled,
 24 “Qualcomm’s Mobile Dominance Shaken From Loss Of Flagship Phone,” which
 25 included the following quote from Amon: **“There’s a lot of rumor and**
 26 **misinformation about the 810 Categorically, we don’t see any problem**
 27 **with the chip.”**

1 240. On February 1, 2015, the *Wall Street Journal* published an article
 2 titled, “Samsung’s Own Chips Were Factor in Blow to Qualcomm,” which
 3 included the following statement from Amon on Friday, January 30, 2015:
 4 ***“There is a lot of misinformation out there about what is really happening***
 5 ***[regarding the 810].”***

6 241. Seeking to further debunk reports regarding the Snapdragon 810’s
 7 abnormal thermal issues, Qualcomm issued a press release on February 2, 2015
 8 titled, “Qualcomm Snapdragon 810 Processor Powers Premium-tier Mobile
 9 Experiences of 2015,” which included promotional statements by Renduchintala
 10 asserting that the 810 does not “compromise on performance, connectivity and
 11 entertainment,” and praise of the 810 from OEMs, including LG, HTC, Xiaomi
 12 and Sony.

13 242. The statements set forth above in ¶¶ 238-241, including Defendants’
 14 affirmative representations that: (i) they didn’t “see any problem with the chip,”
 15 (ii) the 810 was “performing well” and “[doesn’t] compromise on performance,”
 16 (iii) the reports of overheating were simply “rumor or misinformation,” and (iv)
 17 Qualcomm was not going to make “any special versions of the 810,” omitted to
 18 disclose and were materially false and misleading for the reasons detailed in ¶
 19 234, *supra*.

20 243. Likewise, Defendant’s assurances that Samsung’s departure was not
 21 related to the 810’s abnormal thermal issues and that reports to the contrary were
 22 the result of “misinformation” were materially false and misleading for the
 23 reasons detailed in ¶ 220, *supra*. Indeed, in the face of the market’s long-held
 24 expectation that the Galaxy S6 would be powered by the 810, *see* ¶¶ 106-107,
 25 *supra*, Defendants knew or were reckless in not knowing, and concealed the fact,
 26 that, by no later than October 2014, Samsung, Qualcomm’s second largest
 27
 28

customer since 2011, had decided not to use the 810 in the Galaxy S6 because the 810 overheated.

E. **Defendants Falsely and Misleadingly State that the Snapdragon 810 is “Cooler than Ever” and Deny Overheating on February 12, 2015**

244. On February 12, 2015, Qualcomm posted a report on its website titled, “***Snapdragon 810 processor: cooler than ever***” which further attempted to assuage concerns that the 810 had abnormal thermal issues by comparing an unidentified “pre-commercial smartphone with Snapdragon 810” and “a commercial smartphone with [a previous generation of Snapdragon 800 processors].” The report stated:

For months we’ve talked about improved Snapdragon 810 performance, including the new Qualcomm Adreno 430 GPU with 30 percent more performance and 20 percent lower power than previous generation. ***But now we get to show you that devices with Snapdragon 810 can also be cooler.*** Don’t take my word for it, let’s take a look at the results.

245. The promotional posting went on to represent that the Snapdragon 810 did not overheat after 20 minutes of “gaming” and 5 minutes of “4K video” recording whereas the older Snapdragon processors did.

246. Qualcomm also stated, “A cooler smartphone means a better performing smartphone. When a device hits the thermal threshold, it will throttle performance to cool down. ***If you want the best of both worlds, higher performance with lower power, than you want a Snapdragon 810 powered smartphone Not only is the Snapdragon 810 processor designed to deliver more performance and better experiences, but it’s also engineered to use less power and remain cooler***”

247. Qualcomm then stated that readers should “[c]heck out the ‘cool’ new ***Snapdragon 810 smartphones*** already announced, like the LG G Flex2 and

1 Xiaomi Mi Note Pro, stay tuned for the upcoming products from Motorola, Sony,
2 HTC, OPPO, and Microsoft.”

3 248. The statements set forth above in ¶¶ 244-247, including Defendants'
4 affirmative representations that: (i) “devices with Snapdragon 810 can also be
5 cooler”; (ii) the 810 was “engineered to use less power and remain cooler”; (iii)
6 the 810 provides “the best of both worlds, higher performance with lower power”;
7 and (iv) the 810 was performing better than its predecessors, omitted to disclose
8 and were materially false and misleading for the reasons detailed in ¶ 234, *supra*,
9 and for the following additional reasons:

- 10 • Users of devices powered by the 810 reported experiencing
11 slowdowns in the performance of their 810-powered devices after
12 even one to two minutes of use, *see, e.g.*, ¶¶ 142, 149, *supra*; users
also subsequently reported devices reaching temperatures as high as
13 154 degrees Fahrenheit, *see, e.g.*, ¶ 178, *supra*; and
- 14 • 2015 Reports of publicly conducted testing of the 810 revealed that it
throttled significantly faster than its predecessors—the Snapdragon
15 800, 801 and 805—and that even the oldest model—the 801—had
higher performance rates for sustained workloads, *see, e.g.*, ¶ 142,
16 157, *supra*.

17 249. Also on February 12, 2015, *Trusted Reviews* published an article
18 titled “Qualcomm rubbishes Snapdragon 810 Overheating Concerns,” which
19 recounted *Trusted Reviews*’ conversations with Tim Leland, Qualcomm’s Vice
20 President of Product Management, and McDonough regarding Snapdragon’s
21 reported overheating issues. According to the article, “Qualcomm has spoken out
22 on the recent spate of Snapdragon 810 rumours, ***stating its latest System on Chip***
23 ***(SoC) offering hasn’t suffered from production delays or overheating issues.***”

24 The article quoted McDonough as stating:

25 ***The exterior temperature of an 810 device is actually lower than it***
26 ***is for an 800 device***—and the 800 was a flagship that everybody
shipped Part of the reason we wanted to show you the thermal
27 data is that we are not going to spend a lot of our time chasing
rumours ***Usually rumours are wrong and you never get to the***
28 ***truth, so it is nice for use [sic] to be able to start with the truth***

1 If the 800 was the gold standard, we're beating the gold standard and
2 we feel good about that."

3 250. Adding to McDonough's comments, Leland stated:

4 If you look at the Snapdragon 800—a very successful processor for
5 Qualcomm—if you look at the target zones while playing Asphalt 8
6 at 30 frames per second, you can see after 15 to 20 minutes you start
7 getting to the high end of that range of target zone for thermal
8 design.

9 ***However, with the Snapdragon 810, using lessons learned from the***
10 ***800, we have been able to extend the timeframe before you're in***
11 ***that upper thermal zone while still enjoying 30 fps.***

12 ***With the 810 you can go for more than half an hour.*** That's quite a
13 lot of time for something that is generally considered a short-burst
14 gaming experience.

15 251. Also on February 12, 2015, Aberle spoke on behalf of Qualcomm at
16 the Goldman Sachs Technology & Internet Conference. During his remarks,
17 Aberle called the 810 "***a very, very good product***" and stated:

18 Without speaking specifically about Samsung, obviously we did talk
19 about in this particular design cycle the 810 not landing one of the
20 flagship designs. ...

21 We've got over 60 designs and so really the part is performing
22 exceedingly well. ***We're happy with the performance***, we're happy
23 with the traction across the OEM base. It's really isolated to an
24 important but one design in one account.

25 252. During his presentation, Aberle had the following exchange with a
26 Goldman Sachs analyst, Simona Jankowski ("Jankowski"), regarding the 810:

27 JANKOWSKI: And I did want to just try to clear up that point
28 specifically about the 810 not getting into the one large marquee
design win. ***On the call you said that it was performing as***
expected, but at the same time there have been reports in the supply
chain that there were some overheating or power management
issues.

Could you just clarify for us, were those issues just popping up
specific to that one customer and that one design win just relative to
how that particular system design was interacting with the chip's
characteristics? Or was that decision just completely unrelated to
any potential issues on the chip and just more of a strategic decision
by the customer?

1 ABERLE: Our feeling is ***it's probably more the latter***. If you look
 2 at – the phones have already launched. The LG phone has launched
 with the 810 in it already. ***So obviously it's performing well***. ...

3 And so, where we are now I think we feel like ***the part is performing***
 4 ***as expected***. It's won a tremendous amount of design, so if there
 was a problem I think you'd be seeing it more broadly outside of that
 one account.

5 253. The statements set forth above in ¶¶ 249-252, including Defendants':
 6 (i) affirmative representations that the 810 was "a very, very good product" and
 7 "performing well" and "as expected"; and (ii) denials that the 810 was
 8 overheating and representation that the 810 "hasn't suffered from overheating
 9 issues," omitted to disclose and were materially false and misleading for the
 10 reasons detailed in ¶ 248, *supra*.

11 254. Moreover, Defendants' assertion that the loss of Samsung was due to
 12 a "strategic decision by the customer," rather than the 810's overheating issues,
 13 was materially false and misleading for the reasons detailed in ¶ 220, *supra*.
 14 Indeed, in the face of the market's long-held expectation that the Galaxy S6
 15 would be powered by the 810, *see* ¶¶ 106-107, Defendants knew or were reckless
 16 in not knowing and concealed the fact that, by no later than October 2014,
 17 Samsung, Qualcomm's second largest customer since 2011, had decided not to
 18 use the 810 in the Galaxy S6 because the 810 overheated.

19 255. Defendants' repeated assertions that the loss of Samsung's Galaxy
 20 S6 business was an isolated event not related to the 810's overheating flaw, and
 21 that the 810 was not overheating were material as they were repeated by market
 22 analysts. On March 2, 2015, for example, BMO Capital Markets published a
 23 report confirming that "Management believes the [Samsung] loss is a one-off, and
 24 noted other wins with Samsung." Several weeks later, in a report dated March
 25 26, 2015, Trefis reiterated Defendants' representations:

26 Qualcomm is hopeful that it will not be affected much [by the loss of
 27 Samsung], as LG Electronics and the Chinese smartphone
 28 manufacturer Xiaomi have decided to use its chipsets for their
 respective devices. Though Qualcomm expects the above factors to

1 impact its OCT revenue growth and operating margins in the
 2 near-term product cycle, its view of the long-term strategic
 3 environment and QCT's leadership position remains strong. The
 4 design momentum for the Snapdragon 810 processor remains robust,
 5 with more than 60 products in the pipeline, including the recently
 6 announced LG G Flex2 and the Xiaomi Mi Pro Note.

7 256. Additionally, Trefis affirmed this analysis in an April 20, 2015
 8 report entitled "Qualcomm's Q2 2015 Earning Preview: Increasing Competition
 9 to Lower Guidance in 2015," stating "Qualcomm claims to have already
 10 addressed many of the initial product challenges and continues to further
 11 enhance the performance of this chip. It expects to see a broad range of devices
 12 successfully launch and drive volume with this chip in the future. The design
 13 momentum for the Snapdragon 810 processor remains robust, with more than 60
 14 products in the pipeline...."

15 257. On April 20, 2015, Deutsche Bank repeated Qualcomm's mantra that
 16 "the Snapdragon 810 overheating issue was never true."

17 **F. Defendants Continue to Issue False and Misleading Statements**
 18 **in and after April 2015**

19 258. On April 28, 2015, McDonough denied to CNET that LG had
 20 changed its decision to use the Snapdragon 810 for its G4 device (in favor of the
 21 Snapdragon 808) because of the 810's overheating problems: "***The decisions on***
 22 ***which chipsets to put on which handsets come from over a year ago.***" On the
 23 same date, *ExtremeTech* reported that it had reached out to Qualcomm about the
 24 recent reports that the 810 overheated. See April 23, 2015, *Extremetech*,
 25 "Independent testing confirms the Qualcomm Snapdragon 810 has a heat
 26 problem." *ExtremeTech* wrote that "***[a]ccording to Qualcomm marketing***
 27 ***executive, Michelle Leyden Li, the Snapdragon 810 doesn't have a problem.***"

28 259. On May 6, 2015, McDonough gave an interview to *Forbes* regarding
 the Snapdragon 810. During the interview, McDonough stated as follows:

1 ***The rumours are rubbish, there was not an overheating problem***
 2 ***with the Snapdragon 810 in commercial devices*** If that's true,
 3 which we're saying it is, why was there so much rumour? Why was
 4 someone ***spreading false information about the 810?*** Our point of
 5 view is that those rumours happened with the LG G Flex 2 and
 6 Qualcomm 810 being first to market with the premium-tier
 7 application processor. Then somebody decided to put out ***some false***
 8 ***rumours*** about that, which is unfortunate but sometimes that's how
 9 business is done. That has forced us to spend a lot of time
 10 addressing ***the false rumours***.

11 260. On May 27, 2015, Renduchintala presented at the Cowen
 12 Technology, Media & Telecom Conference on behalf of Qualcomm. During his
 13 remarks, he stated that the 810 ***“device in the market has performed to our***
 14 ***expectations and to the expectations of our customers.”*** More specifically, he
 15 stated, “in terms of the performance of the 810, ***we have been very pleased with***
 16 ***the flagship designs that have been launched on the product***, the LG 2 Flex, the
 17 HTC M9, the Xiaomi Note Pro. ***I think all devices [with] the [810 are]***
 18 ***performing in stellar fashion.”***

19 261. With respect to the loss of Samsung, Renduchintala explained that,
 20 rather than overheating problems, the loss had ***“more to do with the alternatives***
 21 ***that were available [to Samsung] at that point in time . . .”***

22 262. During the conference, a Cowen & Co. analyst directly asked
 23 Renduchintala to comment on LG and HTC's public statements regarding their
 24 efforts to ***“try[] to combat the heating issues they have seen from the [810] in***
 25 ***their phones.”*** In response, Renduchintala effectively admitted that the 810 did
 26 overheat, but misleadingly dismissed these concerns, stating that processors like
 27 the 810 “require[] software” to stay “in thermodynamic balance,” that “every
 28 processor goes through some degree of throttling,” and “we have shipped
 29 commercially the 810 with a fairly sophisticated suite of software ***to be able to***
 30 ***keep that platform in thermodynamic balance.”***

31 263. On June 30, 2015, McDonough gave an interview to *ExtremeTech*
 32 regarding the Snapdragon 810. During the interview, after being asked to

1 respond to incidences of Sony's Xperia Z3+ overheating, McDonough stated,
 2 ***"The Snapdragon 810 processor is performing as expected and we have not***
 3 ***observed any abnormal thermal issues."*** McDonough further noted that the
 4 Company had not done anything unusual to create v2.1 of the Snapdragon 810.

5 264. The statements set forth above in ¶¶ 258-263, including Defendants':
 6 (i) affirmative representations that the 810 was "performing as expected" and
 7 without "a problem" or any "abnormal thermal issues"; (ii) denials that the 810
 8 was overheating, including that the "rumours are rubbish" and "false"; and (iii)
 9 assertions regarding the 810's performance in OEM devices, *i.e.*, that there was
 10 no overheating in commercial devices, that the 810 was performing according to
 11 "to the expectations of [their] customers," and that "all devices [with] the [810
 12 are] performing in stellar fashion," omitted to disclose and were materially false
 13 and misleading for the reasons detailed in ¶ 248, *supra*, and the following
 14 additional facts:

- 15 • The defective 810 caused the flagship devices of OEMs such as LG,
 16 HTC, ZTE, Xiaomi, OnePlus, and Sony to overheat and sustain
 performance problems. *See* § IV.J.4, *supra*;
- 17 • LG decided to use the Snapdragon 808 instead of the 810 in its next
 18 flagship premium-tier phone, the G4, despite the fact that the 808
 was a less powerful and inferior chipset, *see* ¶¶ 145-149, *supra*;
- 19 • Xiaomi opted to delay the launch of the Mi 5 so that it could use the
 20 820 and avoid the 810, *see* ¶ 167, *supra*; and
- 21 • DoCoMo, the largest carrier in Japan, placed an overheating warning
 22 label on devices with the 810, including the Sony Xperia Z4, the
 Sharp Aquos Zeta SA-03G, and the Fujitsu Arrows F-04G, *see* ¶
 176, *supra*.

23 265. Moreover, Defendants' assertion that the loss of Samsung was due to
 24 "alternatives that were available [to Samsung] at that point in time," rather than
 25 the 810's overheating issues, was materially false and misleading for the reasons
 26 detailed in ¶ 220, *supra*. Indeed, in the face of the market's long-held expectation
 27 that the Galaxy S6 would be powered by the 810, *see* ¶¶ 106-107, Defendants
 28

1 knew or were reckless in not knowing and concealed the fact that, by no later than
 2 October 2014, Samsung, Qualcomm's second largest customer since 2011, had
 3 decided not to use the 810 in the Galaxy S6 because the 810 suffered from
 4 overheating issues.

5 266. Defendants' assertion that LG's decision to downgrade to the 808
 6 had nothing to do with the 810's overheating issues was materially false and
 7 misleading as a result of and for concealing the reasons set forth in ¶¶ 141, 145-
 8 149, *supra*. Specifically, LG chose to use the slower Snapdragon 808 for its
 9 "most ambitious phone yet," the G4, as a result of the abnormal thermal issues
 10 that the 810 exhibited in the LG G Flex 2, as corroborated by CW 2. Likewise,
 11 CW 2 and CW 3 recalled that Qualcomm had shipped the 810 to LG with known
 12 thermal issues. And, CW 9 recalled that Renduchintala made a special trip to
 13 Korea to beg LG to use the 810 when Samsung abandoned the 810 due to
 14 overheating concerns.

15 **VI. LOSS CAUSATION AND THE EMERGENCE OF RELEVANT** 16 **TRUTH**

17 267. As a result of Defendants' materially false and misleading
 18 statements, omissions of material facts, and fraudulent course of conduct, as
 19 alleged in ¶¶ 216-217, 222-226, 232-233, 238-241, 244-247, 249-252, 258-263,
 20 *supra*, Qualcomm's publicly traded common stock traded at artificially inflated
 21 prices during the Class Period. Specifically, Defendants' misrepresentations and
 22 omissions regarding the Snapdragon 810, including, *inter alia*, its performance,
 23 overheating problems, adoption in OEMs' devices, overall viability, and success,
 24 as well as the reasons for and implications of the Samsung Galaxy S6 loss, caused
 25 and/or maintained the artificial inflation in Qualcomm's stock price during the
 26 Class Period. Relying on the integrity of the market price for Qualcomm
 27 common stock and public information relating to Qualcomm, Lead Plaintiff and
 28 other Class members purchased or otherwise acquired Qualcomm common stock

1 at prices that incorporated and reflected Defendants' misrepresentations and
2 omissions of material fact alleged herein. As a result of their purchases of
3 Qualcomm common stock during the Class Period at artificially inflated prices
4 and the removal of that inflation upon the partial disclosures set forth in ¶¶ 271,
5 278, 284-286, *infra*, Lead Plaintiff and the Class suffered economic losses, *i.e.*,
6 damages under the federal securities laws.

7 268. Defendants' false and misleading statements, material omissions and
8 course of conduct had their intended effect, directly and proximately causing
9 Qualcomm common stock to trade at artificially inflated prices during the Class
10 Period, including as high as \$75.62 per share on December 26, 2014. Those
11 misrepresentations and omissions of material fact that were not immediately
12 followed by an upward movement in the price of Qualcomm common stock
13 served to maintain the price of Qualcomm common stock at an artificially inflated
14 level.

15 269. Had Defendants been truthful about these matters during the Class
16 Period, Lead Plaintiff and other Class members would not have purchased or
17 otherwise acquired their Qualcomm securities at the artificially inflated prices at
18 which they traded. It was entirely foreseeable to Defendants that misrepresenting
19 and concealing these material facts from the public would artificially inflate the
20 price of Qualcomm securities.

21 270. The economic losses, *i.e.*, damages, suffered by Lead Plaintiff and
22 other members of the Class were a direct, proximate, and foreseeable result of
23 Defendants' materially false and misleading statements and omissions of material
24 fact, which artificially inflated the price of the Company's common stock, and the
25 subsequent significant decline in the value of the Company's common stock when
26 the relevant truth was revealed and/or the risks previously concealed by
27 Defendants' material misstatements and omissions materialized.

271. Defendants’ false and misleading statements and omissions about the Snapdragon 810, including, *inter alia*, its performance, overheating problems, adoption in OEM devices, overall viability and success, as well as the reasons for and implications of the Samsung Galaxy S6 loss, caused and/or maintained the artificial inflation in Qualcomm’s stock price throughout the Class Period until the relevant truth concealed and/or obscured by Defendants’ misconduct was revealed to the market. These revelations occurred through at least three partial corrective disclosures on: January 20, 2015, January 28, 2015 and July 22, 2015, as detailed below in ¶¶ 271, 278, 284-286. The timing and magnitude of the declines in the price of Qualcomm common stock, as detailed herein, negate any inference that the loss suffered by Lead Plaintiff and the Class was caused by changed market conditions or other macroeconomic factors unrelated to the revelation and materialization of Defendants’ fraudulent misstatements and omissions.

A. January 20, 2015 Partial Disclosure

272. After the close of trading on January 20, 2015, the relevant truth and foreseeable risks concealed by Defendants’ misconduct and their false representations and omissions during the Class Period began to be revealed and/or partially materialized. On that date, *Bloomberg* published an article titled “Samsung Said to Drop Qualcomm Chip from Next Galaxy S,” which reported on rumors, sourced from people with knowledge of the matter, saying that “Samsung will ***use its own microprocessors in the next version of the Galaxy S smartphone***, dropping its use of a Qualcomm Inc. chip that overheated during the Korean company’s testing.” Additionally, *Bloomberg* noted that according to these rumors, “Samsung tested a new version of Qualcomm’s Snapdragon chip, known as the 810, and decided not to use it.” Neither Qualcomm nor Samsung confirmed nor denied the reports.

1 273. The loss of the Galaxy S6 reported in the January 20, 2015,
2 *Bloomberg* article was a foreseeable consequence of the Defendants'
3 misrepresentations and omissions concerning: (1) supposed OEM acceptance of
4 the 810; and (2) the Snapdragon 810's overheating issues and poor performance
5 alleged herein. Moreover, the January 20, 2015 disclosures revealed new
6 information that Defendants' misstatements, omissions and fraudulent course of
7 conduct previously concealed and/or obscured from the market. These
8 disclosures partially (but incompletely) revealed some of the relevant truth
9 concealed and/or obscured by Defendants' prior misstatements and omissions
10 surrounding Snapdragon 810, including that the Snapdragon 810 was a successful
11 chip adopted by numerous OEMs and would be featured in Samsung's Galaxy
12 S6.

13 274. Additionally, Samsung's decision to drop the Snapdragon 810 from
14 its Galaxy S6 smartphone was substantially caused by, and directly related to, the
15 severe overheating problems plaguing the Snapdragon 810 since its inception.
16 Thus, the January 20 disclosure also partially (but incompletely) revealed both the
17 facts concealed and/or misrepresented by Defendants and the materialization of
18 the known foreseeable risks surrounding the Snapdragon 810 that Defendants
19 deliberately and/or recklessly concealed from investors.

20 275. As a direct and proximate result of these partial corrective
21 disclosures and/or materializations of foreseeable risks concealed by the
22 Defendants' fraud, the price of Qualcomm common stock declined by \$0.89 per
23 share, or 1.23% from a close \$72.48 per share on January 20, 2015 to a close of
24 \$71.59 per share on January 21, 2015 on heavy volume, thereby partially
25 removing a portion of the artificial inflation in Qualcomm common stock.

26 276. Analysts attributed the 1.23% decline to *Bloomberg's* unconfirmed
27 report that Samsung would not use the Snapdragon 810 in the Galaxy S6.
28

Analysts focused on the importance of this development while acknowledging that the reports were unconfirmed by either Qualcomm or Samsung, noting that the loss of the Samsung's flagship device would be a blow to Qualcomm. Moreover, many analysts considered it unlikely that Samsung would drop the Snapdragon 810 entirely from all Galaxy S6 models, predicting that it would still use the Snapdragon 810 in different versions of the Galaxy S6. Some analysts suggested that Samsung would use, at least, some Qualcomm components, such as modems, in the Galaxy S6. This lack of confirmation, combined with Defendants' continued misrepresentations and omissions relating to Snapdragon 810 and its purported success with OEMs such as Samsung, caused much of the artificial inflation to remain in Qualcomm's stock price.

277. For example:

- On January 21, 2015, Susquehanna reported that "[o]f course, Samsung will have many different versions of both the GS6 and the Note this year, and **we still expect QCOM's Snapdragon to represent half of this volume However, based on the share shift expectations we believe this change will represent an incremental negative \$800 mln to QCOM's QCT revenue this year, . . . since the chips sold to Samsung's high end are among QCOM's most profitable chipsets.**"
- In a report issued the same day, Morningstar commented on the Bloomberg article stating: **"If accurate, the design loss and overheating problems are a bit of a blow for Qualcomm** but not a devastating one, in our view [I]t remains possible that the 810 could solve its problems and be included in some models of the S6 that are launched later in the year. . . . **If overheating problems with the 810 continue to loom our concerns around Qualcomm's chip business would understandably rise We will await Qualcomm's earnings report on Jan. 28 for further insight into these reported overheating problems, as well as potential share loss at Samsung.**"
- Also on January 21, 2015, Cowen and Company commented that: "this press report speculates that Samsung will use Exynos for ALL models—we consider this UNLIKELY [T]hus, our view remains unchanged—**our best guess is that Samsung will likely launch the Galaxy S6 in Korea with its own Exynos but slightly delay shipments in other regions to accommodate QCOM's delayed schedule** If the 810 does not end up in ANY Galaxy S6 units over the course of F2015 (as speculated by this most recent article), **QCT would likely need to replace ~30-40MM high-end chip**

shipments through share gains at other OEMs (roughly ~3-4% of our current 990MM F2015 estimate chip shipments)."

- On January 22, 2015, Credit Suisse stated that: "We believe that QCOM will still supply thin modems into such devices We doubt Samsung [will] entirely shift away from the high-end given superior integration and modem technology at QCOM. Overall, we estimate the loss at Samsung, offset by more thin modem sales, will cause a revenue headwind of some \$1.3bn, which we believe has been largely anticipated by the company."

278. Despite this partial disclosure of adverse news which removed some of the artificial inflation in Qualcomm's stock price, its stock price remained artificially inflated due to Defendants' continuous affirmative denials of overheating problems with Snapdragon 810, their misrepresentations and omissions regarding the true reasons for the loss of Samsung, and their repeated false statements regarding the performance and success of Snapdragon 810.

B. January 28, 2015 Partial Disclosure

279. On January 28, 2015, the relevant truth and foreseeable risks concealed by Defendants' misconduct and their false representations and omissions during the Class Period were further revealed and/or partially materialized after the close of trading. On that date, Qualcomm issued a press release revealing for the first time that the Company would have to lower "outlook for the second half of fiscal 2015 in our semiconductor business, QCT, ***largely driven by*** the effects of," among other things, "***[e]xpectations that our Snapdragon 810 processor will not be in the upcoming design cycle of a large customer's flagship device.***" Analysts uniformly confirmed that the "large customer" was Samsung and that the "flagship device" was the upcoming Galaxy S6, facts the Company itself confirmed in March 2016.

280. The loss of the Galaxy S6 confirmed in the January 28, 2015 Press Release was a foreseeable consequence of, and within the zone of risk concealed by, the Defendants' misrepresentations and omissions of the Snapdragon 810's: (1) purported adoption by OEM customers; and (2) overheating issues and poor

1 performance alleged herein. Moreover, the January 28, 2015 disclosures revealed
2 new information that was previously concealed by the Defendants'
3 misstatements, omissions and fraudulent course of conduct. These disclosures
4 partially (but incompletely) revealed some of the relevant truth concealed and/or
5 obscured by Defendants' prior misstatements and omissions surrounding
6 Snapdragon 810, including its purported overall success and adoption in flagship
7 devices of key OEMs such as Samsung.

8 281. Furthermore, Samsung's decision to drop the Snapdragon 810 from
9 its Galaxy S6 smartphone and Qualcomm's reduced outlook for QCT were
10 significantly the result of, and directly connected to, the severe overheating
11 problems plaguing the Snapdragon 810 since its inception. Thus, the January 28
12 disclosure also partially (but incompletely) revealed both the facts concealed
13 and/or misrepresented by Defendants and the materialization of the known
14 foreseeable risks surrounding the Snapdragon 810's adoption by OEMs and its
15 overheating issues that Defendants deliberately and/or recklessly concealed from
16 investors.

17 282. As a direct and proximate result of these partial corrective
18 disclosures and/or materializations of foreseeable risks concealed by Defendants'
19 fraud, the price of Qualcomm common stock declined by \$7.30 per share, or
20 10.28% on extremely heavy trading volume, thereby partially removing
21 additional inflation in Qualcomm common stock.

22 283. Analysts uniformly attributed the 10.58% decline in Qualcomm's
23 stock price on January 29, 2015 to the Company's revelation that Samsung would
24 not utilize the Snapdragon 810 in the Galaxy S6. For example:

- 25 • RBC Capital's January 29, 2015 report stated that "missing out on
26 the Samsung S6 means yet another round of estimate cuts for
27 Qualcomm For Qualcomm, our CY16 EPS declines sharply
28 from \$5.85 to \$5.25. Price target adjusts to \$75."

- 1 • On January 29, 2015, Susquehanna reported that “QCOM now
2 expects that their Snapdragon 810 processor will not be in the
3 upcoming Galaxy S6” and although Susquehanna “had highlighted
4 this issue in early December the outcome turned out to be
5 even worse than [they] had initially feared.”
- 6 • On January 29, 2015, Oppenheimer also commented that “a
7 convergence of multiple elements is negatively impacting its FY
8 outlook and will likely weigh on the shares” highlighting that
9 “[h]eadwinds/challenges include a missed design at Samsung”
- 10 • Morningstar “cut Qualcomm’s fair value estimate by \$5 to \$75 per
11 share” on January 30, 2015, noting that “the far bigger news was the
12 firm’s dim outlook for the second half of fiscal 2015, as the company
13 confirmed recent reports that its Snapdragon 810 processor has been
14 designed out of Samsung’s upcoming Galaxy S6 smartphone” and
15 that “the loss of the full processor is the primary cause for the
16 company slashing its full-year revenue forecast by \$0.8 billion and
17 EPS by \$0.30.”

18 284. Despite this partial disclosure of adverse news which removed some
19 of the artificial inflation in Qualcomm’s stock price, the Company’s stock price
20 remained artificially inflated due to Defendants’ continuing affirmative denials of
21 overheating problems with the Snapdragon 810, their misrepresentations and
22 omissions regarding the true reasons for the loss of the Samsung Galaxy S6, and
23 their repeated false statements regarding the performance and success of
24 Snapdragon 810.

18 C. July 22, 2015 Disclosure

19 285. After the close of trading on July 22, 2015, the relevant truth and/or
20 foreseeable risks concealed by Defendants’ misconduct was further disclosed
21 and/or materialized. On that date, Qualcomm issued a press release announcing
22 the Company had *again* reduced its guidance for its “semiconductor business,
23 QCT, in the fiscal fourth quarter compared to our prior expectations **driven**
24 **primarily** by factors impacting premium-tier demand, including: increased
25 concentration within the premium-tier causing reduced demand for certain OEM
26 devices that include our chipset; lower demand for our premium-tier chipsets
27

1 from a vertical customer [*i.e.*, Samsung]; and lower sell through in China of
2 certain handset models using our premium-tier chipsets.”

3 286. The Company attributed the reduction of QCT guidance in
4 substantial part to the issues relating to Snapdragon 810 and the resulting lack of
5 OEM phone sales, and the impact of losing Samsung’s flagship Galaxy S6
6 business. In particular, during a same-day conference call, Qualcomm’s CFO
7 Davis explained had the following exchange with Tavis McCourt, a Raymond
8 James & Associates analyst:

9 McCOURT: ...I was wondering if there’s any way you could
10 **quantify the impact of the 810 issues**, whether it’s some of your
11 customers choosing to use prior generation chips or any expenses
12 that you’ve had to incur that are kind of abnormal related to that?

13 * * *

14 DAVIS: ...The—***in terms of the 810***, I think probably ***the biggest***
15 ***single impact*** as we look at the year—first off, again, much like the
16 fourth quarter, ***it’s almost entirely attributable to changes in the***
17 ***premium-tier and certainly, the socket loss at a major vertical***
18 ***customer*** [Samsung]. And so that would typically have been a
19 customer for the 810 for their new generation devices. But it’s also
20 been a factor of the impacts that are happening in the premium-tier
21 overall that we are seeing SKUs other than the leading SKUs that ***are***
22 ***not selling through at the levels that customers thought***, th at are
23 impacting some of our premium-tier chipsets as well. So the only
24 other thing from a cost standpoint is, we have had some increased
25 [excess and obsolete inventory], and ***certainly some portion of 810***
26 ***is a part of that***. But overall, it’s really been more a function of the
27 significant shift in demand that we’ve seen throughout the year.
28

287. During the earnings call, Mollenkopf also explained that “[t]he
current industry environment has seen OEM share shift in the highly profitable
premium-tier, where the top player continues to take share and where . . . the top
two manufacturers [*i.e.*, Apple and Samsung] together now have more than 85%
share of premium-tier shipments.” Mollenkopf then clarified that the loss of
Samsung continued to affect Qualcomm’s business, commenting that “[t]he
current product cycle also has seen certain OEMs pursue vertically integrated
strategies at increased levels compared to the past. These developments along

1 with other product cycle issues are currently impacting our business.” Samsung,
2 of course, was one such OEM that had “pursue[d] vertically integrated strategies
3 at increased levels” by choosing to use its in-house SoC.

4 288. The lack of QCT product demand and lower sell through announced
5 in the July 22, 2015 Press Release was a direct and foreseeable result of, and
6 within the zone of risk concealed by, the Defendants’ misrepresentations and
7 omissions, which repeatedly denied the fact that the Snapdragon 810 had
8 significant overheating problems that would impact OEM demand for the 810,
9 adoption of the 810 within OEM smartphones, and the timely launch of 810-
10 powered premium-tier smartphones. These statements concealed the risk that
11 devices using the Snapdragon 810—such as the LG G Flex 2, Xiaomi Mi Note
12 Pro, HTC One M9, and Xperia Z3+ and Z4—would also overheat or perform
13 poorly, resulting in fewer sales of those devices. Moreover, Defendants’
14 misrepresentations concealed the risk that the OEMs selling those devices—such
15 as LG, Xiaomi, HTC, and Sony—would likely reduce their demand for additional
16 Snapdragon 810 SoCs, leading to the increased inventory cited by Qualcomm on
17 the July 22, 2015 conference call. Finally, the delay in OEM launches of 810-
18 powered devices, *e.g.*, Xiaomi Mi Note Pro and OnePlus 2, and decisions to
19 replace the 810 with the 808 or 820, *e.g.*, LG G4 and Xiaomi Mi 5, respectively,
20 due to the 810’s overheating issues, further reduced demand for and sales of the
21 810, which materialized on July 22, 2015.

22 289. Indeed, in the face of the Company’s repeated denials that the 810
23 overheated, the market recognized that if the 810 was in fact overheating, then
24 Qualcomm could suffer losses from reduced demand and lower sell through in the
25 premium-tier smartphone market, which Qualcomm confirmed with its July 22,
26 2015 disclosure. For example, on June 15, 2015, *Xiaomi Today* cited a rumored
27
28

miss of Qualcomm's sales targets "***due to lower shipments forecast to key customers around the globe***, from Japan to Taiwan, from Beijing to Shenzhen".

290. Likewise, on the same day, *Talk Android* discussed the relationship between the 810's overheating and a likely reduction in 810 sales, explaining that,

There have been many, many reports of the [810] device overheating, and although Qualcomm has tried to defer those claims as just rumors, it's pretty clear that the negative press has hurt the processor's market share. The HTC One M9 uses the 810, but LG's G4 opted for the 808, and Samsung has entirely skipped the Snapdragon line for their own Exynos CPUs in the Galaxy S6 and S6 Edge. The only two major devices using a Snapdragon 810 are the One M9 and Sony's Xperia Z4/Z3+, and neither of those devices are shaking up the market right now.

291. In particular, the 810's overheating dramatically impacted OEMs' sales and financial results, and led to the build-up of inventory of affected smartphones, which, in turn, halted demand for the 810. The overheating problems that plagued Sony's flagship devices caused Sony's sales to plummet in 2015. According to a July 30, 2015 article by *Android Police*, "the mobile division responsible for Xperia-branded phones and tablets saw its worst sales numbers in three years" in the second quarter of 2015. The article added that sales for Sony's 2Q15 "fell 16%" and Sony only "moved 7.2 million Xperia devices in the quarter, a 23% drop from [that] time last year." In a February 6, 2016 retrospective, *Android Authority* explicitly blamed the Snapdragon 810, calling it "the bane of many flagship phones in 2015 . . . , affecting the LG G Flex 2, Xperia Z3+ and HTC One M9 ***in the first few months of the year***," and, with respect to Sony, stated "[w]hen using AR Mode or 4K video on the Xperia Z3+, the app would crash after just a few seconds and the phone would need to be left to cool down before the camera could be restarted. Sony put out patches but failed to solve the problem." Indeed, according to CW 7, Verizon's decision not to partner with Sony on its Xperia Z3+ or Xperia Z4 devices because of the 810's overheating adversely affected Sony's sales as Sony "couldn't sell" the phones.

292. Similarly, on January 16, 2016, the *Wall Street Journal* reported that “[t]he lack of its own high-end chip technology also proved to be a competitive disadvantage for Xiaomi last year” when reports of the 810’s overheating problems “**dampened sales** of Xiaomi’s most expensive handset yet, the 2,299 yuan (\$349) Mi Note,” analysts said.

297. Ultimately, these concealed risks materialized when Qualcomm reduced its QCT guidance on July 22, 2015 due to lower demand in the premium-tier.

298. As a direct and proximate result of these final corrective disclosures and/or materializations of the risk concealed by the Defendants’ fraud, the price of Qualcomm common stock declined by \$2.41 per share, or 3.75% from a close of \$64.19 on July 22, 2015, to close at \$61.78 per share on July 23, 2015, on extremely heavy trading volume of 37,879,800 shares. These disclosures further removed additional artificial inflation in Qualcomm’s stock price attributable to Defendants’ misrepresentations and omissions concerning the Snapdragon 810.

299. Analysts directly connected the 3.75% stock price decline to the ongoing performance and overheating issues with the Snapdragon 810 as well as the impact of the Samsung loss. For example:

- On July 23, 2015, Susquehanna stated that “QCOM’s outlook was materially worse than expectations, and reflected many of the fundamental challenges for which we have been concerned for several quarters[,]” identifying “Samsung’s decision to vertically integrate” as one of the “root causes of these challenges.”
- Susquehanna added, “we also suspect that ***the performance issues that have plagued the S810-based phones have also been a factor, as we believe a number of OEMs have delayed launches as they work through some issues.***”
- On the same day, Credit Suisse reported that sales of 810-powered phones had fallen off, leading to 810 inventory buildup and the need for a downward guidance revision—“[f]or QCT, the near term volumes were impacted by weaker sell-through in China with inventory built-up in the ***premium tier*** product.”

- 1 Also, on July 23, 2015, BMO Capital Markets reported on
2 Qualcomm's revised guidance, stating "QCOM expects September-
3 quarter MSM shipments to be 170-190 million, which is
4 significantly below our prior estimate of 237 million and down from
5 the 225 million shipped in June. QCOM's MSM market share has
6 cratered in the last two quarters." The analyst went on to attribute
7 the newly disclosed disappointing chip sales estimates to an increase
8 in channel inventory or the possible loss of additional OEM
9 customer business, "We know the share loss at Samsung was
10 meaningful, which we estimate at about a 500-bp decline. We do not
11 believe that QCOM lost the other approximately 1,000 bps of share
12 from Mediatek and other players, so we believe there is a
13 **meaningful channel burn happening in the September quarter or a**
14 **share loss that we haven't seen yet."**
- 15 In a July 27, 2015 report, Morgan Stanley commented that "in 2015,
16 Qualcomm lost meaningful share in high-end handsets after **the**
17 **company experienced multiple design losses with their Snapdragon**
18 **810 chip, particularly at market leader Samsung."** Morgan Stanley
19 further reported "that poor performance of Qualcomm's most recent
20 family of chips, particularly the Snapdragon 810, and associated
21 share losses may be attributable, at least in part to Qualcomm's
22 accelerated push to introduce an octacore processor to the market."
- 23 On August 4, 2015, Morgan Stanley stated "[t]he concerns aren't
24 new . . . , but the reality is that the market has now decided that they
25 will only get worse on the back of 2 primary disappointments: 1)
26 **Qualcomm lost more share at Samsung** to Exynos than the
27 company anticipated at the beginning of FY15, and 2) **emerging**
28 **market demand might be slightly worse than expected."**

290. On July 30, 2015, in an article titled "Ditching Qualcomm helped Samsung earn an extra \$1.3 billion this quarter," *Business Insider* noted the connection between the Snapdragon 810's overheating issues and Qualcomm's tremendous loss in sales, explaining that:

Samsung had been a loyal partner of Qualcomm for years, using the US chipmaker's application processor for most of its premium smartphones. **But after seeing some overheating issues with Qualcomm's latest chip, Samsung decided to turn to its own semiconductor business starting from the S6 this year.**

That left a big hole on Qualcomm's sales. Samsung and Apple account for roughly 85% of premium smartphone sales, and with Apple designing its own main chips and Samsung going in-house, **Qualcomm just lost a huge chunk of its sales.**

In fact, **the loss was so big that Qualcomm announced during its last earnings call that it would cut 15% of its workforce and \$1.4 billion in spending this year.**

291. In a September 16, 2015 article, *XDA Developers* also connected the low demand for phones equipped with the Snapdragon 810 to the overheating issues and poor sell through for Qualcomm. *XDA Developers* explained that the Snapdragon 810's compromised performance and instability is "***what cost so many of this year's flagships (and their manufacturers) reputation and sales.***" *XDA Developers* noted that:

[E]nthusiasts voted with their wallet, and a general trend of 810 avoidance is clear in most comment fields of articles that touch on the subject. ***The 810 cost many flagships a chance to shine through and it produced a playing field that has never been so uneven in terms of resulting flagship performance.*** It also held back a whole generation from achieving a significant step forward in not just power and speed, but also efficiency and reliability. ***It led to misleading marketing and confusion of all sorts through all kind of publications.***

292. In short, as result of the Snapdragon 810's overheating issues, OEMs sold fewer phones and Qualcomm sold fewer chips, which harmed Qualcomm's revenues, share price, and ultimately investors.

VII. SCIENTER ALLEGATIONS

293. As more fully alleged above, numerous facts give rise to a strong inference that, throughout the Class Period, Defendants knew or were deliberately reckless in not knowing that the statements identified above concerning the Snapdragon 810 were materially false and misleading when made and/or omitted material facts necessary to make those statements not misleading. In particular, Defendants: (i) knew and/or recklessly disregarded that the public documents and statements issued and disseminated in the name of the Company were false and misleading; (ii) knew that these statements or documents were issued and disseminated to the investing public; and (iii) knowingly and substantially participated or acquiesced in the issuance or dissemination of such statements as primary violators of the federal securities laws.

294. As set forth herein in detail, Defendants participated in the fraudulent scheme by Qualcomm by means of their control over and receipt or dissemination of the Company's materially false and misleading statements, and their associations with the Company that made them privy to material nonpublic information about Qualcomm.

A. Renduchintala's, Mollenkopf's and Amon's Actual Knowledge of the Snapdragon 810's Thermal Issues, Which is Imputed to Qualcomm, Establishes a Strong Inference of Scienter

295. The following facts, when viewed individually or holistically, provide a strong inference that Renduchintala, Mollenkopf, Amon, and Qualcomm, knew and/or recklessly disregarded that the 810 overheated throughout the Class Period.

296. Throughout the Class Period, Renduchintala was Co-President of Qualcomm's QCT division, responsible for the technical aspects of the Company's products, including the development and testing of the 810.

297. In his role as Co-President, Renduchintala exercised great control and decision-making authority. In fact, CW 3 described Renduchintala as having implemented a "do this, do this" culture in QCT, enabling him to directly control the segment "with an iron fist," and "like a drill sergeant." CW 3 further characterized Renduchintala as a "micromanager" that needed to know everything that was occurring within the QCT division. By way of example, when Apple shocked the market by moving to a 64-bit mobile processor in September of 2013 and Samsung responded by telling the market that the Galaxy S6 would contain a 64-bit processor, it was Renduchintala's decision to include a 64-bit processor in the Snapdragon 810 in an attempt to retain Samsung's business. Renduchintala also made the decision to expedite the production and delivery of the 810 to Samsung in November 2014, rather than January 2015 as originally planned.

298. As Co-President of QCT, Renduchintala supervised a considerable staff, including Project Engineer, Rajeev Pal, and Executive Vice President of Engineering, James “Jim” Thompson. Renduchintala, in turn, reported directly to Mollenkopf, the CEO of Qualcomm. As early as March 2014, Qualcomm’s QCT engineers, under Renduchintala’s direction and control, became focused on the Snapdragon 810’s propensity to overheat, the test results evidencing the 810’s thermal issues, and the Company’s inability to fix the chip prior to its commercial launch. To that end, they conducted extensive, multi-part testing and closely monitored the chip by, *inter alia*:

- Testing the 810 daily in MTP device farms, and generating and analyzing raw data that was uploaded onto daily audit logs;
- Preparing and reviewing daily PDT Reports, which included the data from the daily audit logs and metrics that followed the thermal issues such as CPTH, MTBF, and the “line item” metric that specifically tracked the number of crashes due to overheating;
- Preparing and reviewing weekly snapshot emails of the most important testing data from the week and circulating those to, *inter alios*, Rajeev Pal;
- Preparing and reviewing regular reports which concerned the 810 and its thermal issues such as daily sub-system reports, *Root Cause Analysis Reports* and *Thermal Engineering Test Reports*;
- Participating in weekly Status Meetings, and reviewing corresponding weekly Status Reports, to discuss the 810’s thermal issues;
- Attending weekly Principals Meetings with their superiors during which slides were presented regarding the 810’s thermal issues;
- Attending bi-weekly Executive Meetings with their superiors, during which Power Point presentations highlighting key points from the PDT Reports were made and executive summary emails from the PDT Reports were circulated prior to each Executive Meeting;
- Participating in daily Target Scrum Meetings to discuss the test results of the 810;
- Attending daily Team Lead Meetings to further discuss the test results presented at the Target Scrum Meeting, and suggest changes or additional testing in an attempt to resolve the functionality issues, including thermal issues;

- Dedicating more resources into the testing of the chip, including increasing the number of software builds performed on the chip in an attempt to resolve the thermal issues;
- Reviewing testing reports from OEMs, which reported that the 810 was overheating in the OEMs' respective MTP devices;
- Participating in *ad hoc* conference calls with their superiors, wherein specifics (such as the "root cause") with respect to the 810's thermal issues were discussed;
- Preparing and circulating documents regarding the 810's overheating for executives who were unable to attend a particular meeting;
- Attending "all-hands" meetings, both Company-wide and with QCT, to discuss the problems Qualcomm was experiencing with the 810 and the potential economic impact thereof;
- Preparing and reviewing "Dashboard" presentations during CSRR meetings, during which the Company analyzed the data and decided whether to mass produce the chip for distribution to OEMs;
- Preparing and reviewing executive summaries in advance of CSRR meetings; and
- Preparing and reviewing meeting minutes and "action item" lists following CSRR meetings.

299. The Snapdragon 810 became such a priority, in fact, that CW 2 stated that he received over **1,000 emails a day**, many of which concerned the thermal issues in the 810. CW 3 similarly stated that, in his 22 years at Qualcomm, he had "not seen any other chip set get this much attention." Given that Renduchintala had a technical background, "micromanaged" QCT, and ran QCT like a "drill sergeant," it is reasonable to infer that he was aware of the foregoing information evidencing the 810's abnormal and unrelenting thermal issues.

300. Furthermore, as detailed above, Renduchintala was, in fact, highly focused on the functionality of and thermal issues associated the Snapdragon 810. In an April 7, 2014 interview with Tirias Research founder and principal analyst Jim McGregor, for instance, Renduchintala acknowledged the importance of the Snapdragon 810 to the Company, describing it as a "game changing device" that

1 “maintains our leadership in terms of low power and not compromising
2 performance.”

3 301. Throughout the Class Period, Renduchintala actively monitored the
4 810’s overheating problems by, *inter alia*:

- 5 • Receiving PDT reports that were generated daily from the MTP
6 device farm audit logs by May 2014, at the latest. The PDT reports
7 reflected the nightly test results from the MTP device farms,
8 including that the 810-powered MTPs were crashing more than
9 1,000 times per night, and all of the crashes or CPTH caused by
10 thermal issues were isolated and presented in a new “line item,” *see*
11 ¶ 86, *supra*;
- 12 • Receiving PDT Reports following testing milestones beginning in or
13 around April 2014 and receiving weekly presentations of the daily
14 PDT Reports, *see* ¶ 86, *supra*;
- 15 • Attending Bi-Weekly Executive Meetings every Tuesday and
16 Thursday with other Qualcomm executives, including Pal, Tony
17 Schwartz and, occasionally Amon, to discuss the 810, prior to which
18 he received an email summary of the 810’s thermal issues backed up
19 with raw testing data for the 810, *see* ¶¶ 94-95, *supra*;
- 20 • Attending Weekly Principals Meetings starting in May 2014,
21 wherein he received updates from Pal regarding the Snapdragon 810
22 project and reviewed slides evidencing the 810’s overheating issues,
23 *see* ¶ 93, *supra*;
- 24 • Attending daily Target Scrum meetings starting no later than
25 December 2014, *see* ¶¶ 91, 104, *supra*;
- 26 • Directing substantial Company resources to resolve the thermal
27 issues with the 810, including by drastically increasing the number
28 of software configurations, or builds, that were performed, *see* ¶ 98,
supra;
- Reviewing weekly snapshot emails containing the most important
testing data from the week, *see* ¶¶ 79, 104, *supra*;
- Participating in *ad hoc* conference calls during which he specifically
inquired about the root cause of the 810’s thermal issues in
November 2014 and listened to Pal call the 810 as “a piece of crap”
in September 2014, *see* ¶ 104, *supra*;
- Reviewing daily written reports in November/December 2014. By
December 2014, the “bulk” of these reports discussed the 810’s still
unresolved thermal issues and the unsuccessful efforts Qualcomm
was taking to correct them, *see* ¶ 104, *supra*;
- Attending and presenting at a QCT “all-hands” meeting of all
Qualcomm employees in or around November 2014, wherein the

810's unremedied thermal issues were discussed, see ¶¶ 116-117, *supra*; and

- Attending CSRR meetings during which testing results and other data were reviewed (including "Dashboard" presentations, executive summaries of thermal testing data, and action item lists) and the decision was made to release the 810 in a defective state, see ¶¶ 104, 119-121, *supra*.

302. Renduchintala and Qualcomm knew that the 810 was released in a defective state. For example, following several CSRR meetings in November and December 2014, wherein testing data included CPTH and MTBF results, showed continued overheating of the 810, CW 2 recalls that Qualcomm and Renduchintala approved the commercial production of a still-overheating 810 by December 2014. Specifically, Qualcomm and Renduchintala decided to sell the 810 to LG despite its abnormal thermal issues. CW 3 likewise confirmed that the thermal issues with the 810 had not been fixed by the time of the LG launch.

303. Renduchintala also was aware of the extraordinary and unsuccessful efforts that were taken to remedy the 810's overheating problems, including that the amount and frequency of software configurations being tested to stop the 810 from overheating was more than 10 times greater than any prior chipset. CW 3 and CW 4 recalled that Qualcomm typically tested three software builds per week, but with the 810, the Company tested five to six software builds *a day*, including on weekends, see ¶ 99, *supra*.

304. Similarly, with respect to the 810's commercial use, Renduchintala was aware that:

- When Sony began complaining that its Xperia devices were overheating, CW 5 recalled communicating with Sony through at least April 2015, including communications almost every day between January and February, and recalled that CW 5 and a team of five to six other individuals offered various solutions such as software configurations and customizations to try and remedy the 810's issues, see ¶¶ 169-172, *supra*;
- After Samsung abandoned the 810 for the Galaxy S6, Qualcomm offered to provide Samsung with a new version of the 810, see ¶¶ 200-203, *supra*;

- 1 • Qualcomm quietly replaced the original commercial version of the 810—v2—with an updated version—v2.1—to remedy (albeit unsuccessfully) the overheating issues with the 810, *see* ¶¶ 204-205, *supra*; and
- 2
- 3 • Throughout 2015, numerous third party tests were performed on and news reports were issued concerning 810-powered smartphones, which evidenced the 810's propensity to overheat, the performance problems that arose from the overheating, and the likely decrease in demand of 810 powered smartphones. *See* §IV.J.4, *supra*.
- 4
- 5

6 305. As Co-President of the division, Renduchintala undoubtedly knew of
 7 the foregoing remedial efforts as he was personally responsible for allocating
 8 resources—including people, hardware, and lab space—for this testing and
 9 remediation. Indeed, CW 2 recalls that Renduchintala personally called for more
 10 engineers and financial resources to address the 810's thermal issues. *See* ¶ 98,
 11 *supra*. Furthermore, according to CW 4, Renduchintala made the decision to
 12 expedite the creation and release of the Snapdragon 820 one full year ahead of
 13 schedule specifically to replace the 810 due to its abnormal thermal issues—
 14 overruling the Company's brand new policy to conserve the extraordinary
 15 financial and manpower resources required to develop a new chip. At least one
 16 OEM, Xiaomi, chose to delay the release of its phone to wait for 820, *see* ¶ 167,
 17 206-209, *supra*.

18 306. Renduchintala also had actual knowledge that Qualcomm's
 19 relationships with OEMs were adversely impacted by the 810's thermal issues.
 20 According to CW 3, Renduchintala maintained a relationship with Qualcomm's
 21 most important QCT customer—Samsung—by virtue of his previous work on
 22 several Qualcomm projects with Samsung, including as Engineering Lead. As
 23 such, Renduchintala knew, by no later than October 2014, that Samsung would
 24 not use the 810 in the Galaxy S6 – the first time that Samsung would not use a
 25 Snapdragon SoC in its flagship smartphone since the Snapdragon SoC was first
 26 created in 2011. *See* ¶ 106, *supra*.

1 307. Indeed, as noted above, CW 2 relayed to Renduchintala his
2 conversation with CW 2's counterpart at Samsung, in October 2014, regarding
3 Samsung's plan to use its in-house chip over the 810 because of the 810's thermal
4 issues. In response, Renduchintala confirmed to CW 2 that Samsung was in fact
5 abandoning the 810. *See ¶¶ 109-110, supra.*

6 308. Shortly after Samsung abandoned the 810, CW 2 recalled that
7 Qualcomm "pushed" LG to launch the G Flex 2 in January 2015. Furthermore,
8 according to CW 9, after Samsung decided to abandon the 810 due to its thermal
9 problems, Renduchintala flew to Korea to "beg" LG to use the 810 in its G Flex
10 2. *See ¶ 141, supra.*

11 309. In his capacity in reporting to Mollenkopf, Renduchintala would
12 have kept Mollenkopf apprised of the thermal problems with the 810, and the
13 Company's inability to resolve them. Additionally, as Amon's Co-President of
14 QCT, he would have updated and consulted with Amon about the status of QCT's
15 most important product.

16 310. Mollenkopf also was directly aware of the 810's overheating issues.
17 According to CW 4, during an "all-hands" meeting at the Company in November
18 of 2014, Mollenkopf admitted that the 810 was experiencing thermal issues and
19 specifically noted that those issues would adversely affect the Company's
20 financial position. *See ¶ 116, supra.*

21 311. Amon also had actual knowledge of the 810's overheating.
22 According to CW 4, Amon, together with Renduchintala and other QCT
23 executives, attended Bi-Weekly Executive Meetings, beginning in May 2014, to
24 discuss the 810's deficiencies, including its inherent overheating. Prior to each
25 meeting, each participant received email summaries of the issues to be discussed
26 and the raw testing data for the 810. CW 4 also stated that Amon received PDT
27 Reports showing the results from the MTP device testing, including the specific
28

metric that identified the number of CPTH that was the result of the 810's thermal issues. Amon also participated in CSRR meetings where the 810's thermal issues were analyzed and dismissed in favor of commercial launch. See ¶¶ 86, 94-95, 119-121, *supra*.

312. Renduchintala's, Mollenkopf's, and Amon's statements and/or omissions of material information were made on behalf of the Company. Accordingly, their knowledge or deliberate recklessness of the false and misleading nature of the alleged misstatements and omissions is imputed to and binding upon the Company.

B. The Sheer Amount of Evidence of Overheating from Testing in 2014 and Reports of Overheating in 2015 Supports a Strong Inference of Scienter

313. As detailed above, the sheer amount of information and reports about the 810's thermal issues available to the Individual Defendants on a daily and weekly basis throughout 2014 supports a strong inference that the Individual Defendants knew or were deliberately reckless in not knowing of the problems with the 810 that were never remedied prior to commercial launch.

314. For example, QCT compiled daily and weekly reports over at least a nine-month period (between March 2014 and December 2014), many of which were sent to senior executives including Renduchintala, and *all* of which demonstrated that the Snapdragon 810 exhibited abnormal thermal issues. The thermal issues were so pervasive, in fact, that Qualcomm had to create a specific metric to identify the number of CPTH that occurred in the MTP device farms as the result of the 810's thermal problems—a metric that was contained as a separate “line item” in the various reports sent to Qualcomm executives, including Renduchintala and Amon. Likewise, QCT scheduled a large number of daily, weekly and bi-weekly meetings, as well as *ad hoc* conference calls/meetings specifically convened by or on behalf of Renduchintala, to discuss

1 the 810's thermal problems over at least a six-month period (June 2014 to
2 December 2014).

3 315. Further, Qualcomm's key customers—the OEMs who had expressed
4 interest in using the 810 in their flagship devices and which had no meaningful
5 alternative SoC option—had discovered and reported to QCT that the chipset
6 overheated during commercial sampling and after commercial launch. *See* ¶ 101;
7 § IV.J.4, *supra*.

8 316. Moreover, independent testing and numerous third party reports
9 throughout 2015 confirmed that the 810 was causing the flagship devices of
10 OEMs such as LG, HTC, ZTE, Xiaomi, OnePlus, and Sony to overheat and to
11 experience performance problems. *See* § IV.J.4, *supra*. In fact, the independent
12 testing and news articles reported that:

- 13 • Each OEM model that incorporated the 810 was in fact overheating
14 in 2015;
- 15 • The carrier DoCoMo added a warning label to all of its 810-powered
16 phones, advising customers that the phone may overheat and
17 providing best practices to avoid such overheating;
- 18 • The LG G4, Xiaomi M1 5 and OnePlus 2, included the lower
19 powered 808, waited for the 820, and delayed launch, respectively,
20 to address the overheating associated with the 810;
- 21 • The Defendants' continued denials of overheating were not true, *see*
22 August 3, 2015, *DroidViews* (reporting, that the 810 "was the worst
23 SoC ever by Qualcomm," and "***Tim McDonough covered up the***
24 ***issue in FORBES adding rumors [of overheating] are rubbish but***
25 ***it seems not true.***");
- 26 • Qualcomm released a new version of the 810 in an unsuccessful
27 attempt to remedy the overheating problems;
- 28 • OEMs including LG, HTC, OnePlus and Sony all admitted that the
810 suffered from overheating issues;
- OEMs included additional hardware in their phones, like heat pipes,
graphite, thermal gel and cooling fins, to unsuccessfully combat the
heat emitted by the 810;
- OEMs installed software in an attempt to prevent the 810 from
overheating and throttling, but the software prevented the 810 from

operating at high speeds adversely affecting the operational performance of the smartphones;

- Samsung chose to use the Exynos in the Galaxy S6 rather than the 810 because of the 810's thermal issues; and
- Reports of lining 810-powered phones with foil helped to increase their performance, but did not prevent them from overheating.

317. Furthermore, Qualcomm actively attempted to mitigate the fallout of OEM complaints during the Class Period, including by: (i) offering Samsung a modified 810; (ii) designating resources to try to solve the power consumption issues Sony was experiencing with the Xperia Z4 (according to CW 5); and (iii) expediting the development of the Snapdragon 820 one year ahead of schedule. Each of these efforts required additional internal testing, reports, and meetings, all of which would have reflected the 810's severe and pervasive overheating issues.

318. Had the Individual Defendants done any due diligence prior to touting the 810's performance or denying rumors regarding the 810's propensity to overheat, they would have known the truth—the 810 suffered from debilitating abnormal thermal issues. As a result, the large number and, importantly, the consistency of these reports confirm that the Individual Defendants either knew they were misleading investors or were making statements without any reasonable basis.

C. The Individual Defendants' Senior-Level Positions, Responsibilities, Technical Backgrounds, and Access to Adverse Information Regarding the 810 Support a Strong Inference of Scienter

319. Defendants' senior-level positions and responsibilities, and engineering or technical backgrounds supports a strong inference that each Defendant knew or was deliberately reckless in not knowing that their statements were materially false or misleading by virtue of the omission of material information concerning the 810.

320. Throughout the Class Period, Mollenkopf was the CEO of Qualcomm—the most senior position at the Company—with “overall

1 responsibility for Qualcomm, including all lines of business and all functional
2 groups in the Company.” Prior to his promotion to CEO, Mollenkopf had served
3 over 20 years with the Company, including a stint in Qualcomm’s QCT division.
4 As noted by the Company, Mollenkopf “oversaw a number of Qualcomm’s
5 investments in technologies that have propelled smartphones into the mainstream
6 and made smartphones the indispensable tools they are today. During
7 Mollenkopf’s tenure, Qualcomm has become a leader in a broad range of mobile
8 technologies, including computing, graphics, multimedia chipsets, and 3G and 4G
9 modems.”

10 321. Prior to and during the Class Period, Aberle, Qualcomm’s President,
11 had “oversight for all business divisions across the organization” and
12 “formulating and driving key strategies for diversifying and growing the
13 Company in both [the] core businesses as well as new business opportunities.”
14 Aberle was placed in this position after having “provided exceptional leadership
15 and oversight for all activities associated with Qualcomm’s technology and IP
16 licensing business.” Aberle reported directly to Mollenkopf.

17 322. By virtue of their high-level executive positions, Mollenkopf and
18 Aberle directly participated and were involved in both the management and day-
19 to-day operations of the Company at the highest levels, and were privy to
20 confidential proprietary information concerning the Company’s core operations,
21 including its QCT division, key products, and customers.

22 323. Amon was Co-President of the Company’s QCT division (a title he
23 shared with Renduchintala), and was directly responsible for the design,
24 production, marketing, and sale of the Snapdragon 810 during the Class Period.
25 As Co-President of QCT, Amon reportedly “provided exceptional leadership in
26 expanding QCT’s product roadmap—positioning Qualcomm as the industry
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1 leader in mobile technology” and “developing deep and strategic customer
2 relationships critical to the Company’s long-term success.”

3 324. CW 3 confirmed that Amon was the primary executive charged with
4 customer relationships—he was responsible for interaction with and marketing to
5 OEM customers about Qualcomm’s QCT products. Accordingly, during his
6 tenure with the Company, Amon was privy to adverse confidential, undisclosed
7 information related to QCT’s products, like the Snapdragon 810, and any issues
8 with those products, including, specifically, abnormal thermal problems.
9 Likewise, as the executive responsible for customer relationships, Amon was
10 privy to adverse confidential, undisclosed information related to the OEMs to
11 which Qualcomm hoped to sell the 810, including the internal testing conducted
12 by the OEMs and the status of the Company’s negotiations with its customers.

13 325. McDonough acted as Qualcomm’s Vice President of Worldwide
14 Marketing throughout the Class Period. McDonough described his role at the
15 Company as “CMO” for QCT, “[r]esponsible for Qualcomm’s ~\$15B chipset
16 business.” In this role, McDonough explained that he brought “together product
17 marketing, branding, public relations, events, online marketing and analyst
18 relations for [Qualcomm’s] leading LTE and Qualcomm Snapdragon mobile
19 processor products.” As VP of Worldwide Marketing, he also “[s]uccessfully
20 secured gold standard position[s] with OEMs and [the] mobile industry, [and]
21 grew [and] aided consumer awareness to ~30%.” Thus, as the *de facto* Chief
22 Marketing Officer of Qualcomm’s QCT division McDonough had access to
23 adverse confidential, undisclosed information concerning QCT’s strategic product
24 development and market, including the Company’s efforts to respond to rumors
25 regarding the 810 and information related specifically to the OEMs to which
26 Qualcomm hoped to sell the 810 and those negotiations.

1 326. Each of the Individual Defendants were sufficiently qualified and/or
2 trained to understand the design, development, and functionality of the
3 Snapdragon 810 and recognize the existence and severity of the 810's underlying
4 thermal problems. As Mollenkopf acknowledged, the Company has a "very
5 engineering driven culture," and "[a]ll the senior execs are technical."
6 Mollenkopf, Amon, and Renduchintala, for example, were engineers by trade.
7 Further, according to the Company's website, Mollenkopf "is a published IEEE
8 [Institute of Electrical and Electronics Engineers] author and holds seven patents
9 in areas such as power estimation and measurement, multi-standard transmitters,
10 and wireless communication transceiver technology." McDonough operated
11 under the belief that "great marketers combine technical product knowledge and
12 customer insight for breakthrough results." Thus, in addition to understanding
13 QCT's operations and relationships with its key customers, the Individual
14 Defendants had a deep understanding of technical reports and internal testing
15 results related to the Snapdragon 810, to which they received and/or had access.

16 327. The Individual Defendants controlled the contents of, and had
17 ultimate authority over, the Company's public statements and omissions during
18 the Class Period. Each was provided with, or had access to, copies of the
19 documents or were aware of oral statements alleged herein to be false or
20 misleading prior to, or shortly after, their issuance, and had the ability and
21 opportunity to prevent their issuance or cause them to be corrected. Moreover, at
22 all relevant times, the Individual Defendants were involved in drafting,
23 producing, reviewing, and/or disseminating the statements at issue in this case,
24 approved or ratified these statements, and were aware or were deliberately
25 reckless in not knowing that these statements were being issued regarding the
26 Company. As a result, the Individual Defendants had ultimate authority for the
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1 accuracy of Qualcomm's corporate statements, and are therefore responsible and
2 liable for the representations contained therein or omitted therefrom.

3 328. Thus, given their respective positions, technical expertise, and access
4 to material non-public information concerning the Company, each Individual
5 Defendant knew or were deliberately reckless in not knowing that the adverse
6 facts alleged herein had not been disclosed to, and were being concealed from the
7 public, and that the positive representations that were being made were materially
8 false, misleading, and deceptively inaccurate.

9 **D. The Individual Defendants Knew or Were Deliberately Reckless**
10 **in Disregarding Information Concerning the Company's Core**
11 **Operations**

12 329. As Qualcomm's most senior executives with direct control and
13 supervision over its business, operations and public statements, the Individual
14 Defendants were knowledgeable about Qualcomm's core business operations,
15 including the functionality and OEM adoption of the 810.

16 **1. The Snapdragon 810 Was Central to Qualcomm's QCT**
17 **Operations**

18 330. QCT was one of the Company's two main business segments during
19 the Class Period, accounting for more than 70% of Qualcomm's revenues in 2014
20 (or \$18.7 billion). The Snapdragon series of mobile processors were key or
21 "flagship" products for QCT and Qualcomm. Included in over one billion
22 devices shipped by 2014, Snapdragon mobile processors dominated the mid- to
23 premium-tier smartphone markets in the United States, Europe, and China.

24 331. The 800 series was the most important Snapdragon series of mobile
25 processors for at least two reasons. *First*, the 800 series included Qualcomm's
26 most technologically advanced chipsets. With customized CPU cores, advanced
27 gaming and video capabilities, and lightning fast 4G/LTE connectivity, the
28 Snapdragon 800 series was promoted as being technologically superior to other

1 chipsets on the market. *Second*, Qualcomm recognized significantly higher
 2 margins on its 800 series mobile processors as compared to its other products.
 3 Thus, a successful 800 series chipset was poised to garner Qualcomm higher
 4 profits.

5 332. Moreover, the relative importance of the Snapdragon 810—the latest
 6 in the 800 series—was heightened during the Class Period as a result of Apple’s
 7 sudden shift from a 32-bit processor to 64-bit processor. Given Qualcomm’s SoC
 8 leadership position in the industry, the market expected and anticipated that the
 9 810 would be the preeminent 64-bit SoC on the market. Furthermore, given the
 10 810’s higher cost, it was important that it worked flawlessly in OEMs’ flagship
 11 devices so as to ensure the OEMs did not choose a cheaper processor to avoid a
 12 margin squeeze. Thus, throughout the Class Period, the success of the
 13 Snapdragon 810 was of critical importance to the Company’s profitability,
 14 reputation, and continued OEM loyalty.

15 333. Accordingly, the Individual Defendants knew or were deliberately
 16 reckless in not knowing the following material information concerning the
 17 Snapdragon 810: (i) Apple’s shift from 32-bit to 64-bit was unexpected and
 18 caught the Company flat-footed without a fully customized 64-bit CPU to use in
 19 the Snapdragon 810; (ii) the risk of using “off-the-shelf” ARM Cortex-A57 cores
 20 in the 810 rather than a customized CPU as Qualcomm had historically done; and
 21 (iii) the margin for error for the 810 was virtually non-existent given that the
 22 OEMs’ were paying the high cost of the latest iteration of the 800 series.

23 24 2. **The Extent and Frequency of the 810 Testing Process and** **Sustained Evidence of Overheating Support a Finding of** **Scienter** 25

26 334. As further explained in ¶¶ 76-80, *supra*, initial testing of the First
 27 Silicon would have provided the Individual Defendants with initial data
 28 demonstrating that the 810 suffered from debilitating thermal issues that had the

1 real potential to adversely affect the commercial success of one of Qualcomm's
2 flagship SoC—the 810. Thereafter, the Company engaged in several more
3 months of extensive and unsuccessful testing in an attempt to fix the 810's
4 thermal issues. Accordingly, the Individual Defendants, each of whom were
5 responsible for developing, marketing, and selling the 810, knew or were
6 deliberately reckless in disregarding the results of each round of testing, including
7 those conducted by the Product Test Group, which demonstrated that the 810 was
8 experiencing myriad performance issues; and those from the MTP device farm,
9 which showed abnormally high CPTH such that the devices were crashing up to
10 1,000 times per night primarily due to thermal issues.

11 335. Once the severity of the issues with the Snapdragon 810 was
12 revealed, diagnosing the source of and finding a solution for the abnormal thermal
13 results became QCT and Qualcomm's top priority and thus something of which
14 Defendants were aware. Indeed, the Company devoted considerable time and
15 resources, including more money, engineers, and lab time, and conducted
16 significant testing, including tasking the Product Test Group to begin testing
17 several months early and testing nearly 10 times more software builds every week
18 trying to fix the 810.

19 336. The stakes for Qualcomm grew exponentially higher once rumors
20 began circulating regarding the 810's propensity for overheating began
21 circulating in late 2014 and throughout 2015. As a result, the Individual
22 Defendants knew or were deliberately reckless in not knowing at least the
23 following information: (i) daily and weekly reports detailed abnormal thermal
24 results for the 810 over at least a nine-month period without resolution; (ii)
25 neither the Software Testing Group nor the Product Test Group could identify the
26 source of the 810's abnormal thermal results; (iii) OEMs also were identifying
27 and reporting to QCT thermal issues with the 810; and (iv) Qualcomm
28

1 commercially launched the 810 in January 2015 without diagnosing—let alone
 2 solving—the reason for the 810’s abnormal thermal results.

3
 4 **3. The Materiality and Importance of Samsung as a**
Customer for Qualcomm’s Chips Supports a Strong
 5 **Inference of Scienter**

6 337. As discussed in detail above, Samsung’s business represented 12%
 7 of QCT’s sales in FY14. Samsung had the largest market share of any of the
 8 OEMs selling premium-tier smartphones. Its Galaxy S series competed head-to-
 9 head with Apple’s iPhone in most markets. Qualcomm’s Snapdragon 805 was
 10 used in the Galaxy S5, which had sales of 12 million devices in just three months
 11 after launch. Indeed, Samsung had used a Snapdragon processor in every series
 12 of the Galaxy S since 2011. Thus, Samsung’s Galaxy S6 was not only one of the
 13 key “wins” for Qualcomm’s Snapdragon 810, but the 810’s placement in the S6
 14 was also the market’s expectation.

15 338. Samsung also was a significant competitor of the Company,
 16 designing and manufacturing its own SoC chipsets to rival Qualcomm’s
 17 Snapdragon mobile processors. In fact, Samsung used its ability to manufacturer
 18 its own chipsets as leverage when negotiating with Qualcomm. Winning and
 19 maintaining Samsung’s business was therefore a critical component of
 20 Qualcomm’s business model throughout the Class Period.

21 339. As a result, the Individual Defendants knew or were deliberately
 22 reckless in not knowing at least the following facts: (i) in order to capture
 23 Samsung’s business for the Galaxy S6, Qualcomm had agreed to shorten its
 24 production timeline for the 810 by two months, agreeing to release the chipset
 25 commercially in November 2014; (ii) in order to be considered for the Galaxy S6,
 26 the 810 needed to be a 64-bit chipset that Qualcomm had never created; (iii) in
 27 mid-2014, Samsung experienced overheating from the 810 during its pre-
 28 commercial testing and shared those results with Qualcomm; and (iv) by no later

1 than October 2014, Samsung notified Qualcomm of its decision to use its own
 2 Exynos chipset rather than the 810 in the Galaxy S6 due to the 810's propensity
 3 to overheat.

4
 5 E. **Amon and McDonough's Unequivocal Denials of Any Problems**
 6 **With the Snapdragon 810, Which Contradicted Known**
 7 **Information at Qualcomm, Demonstrate A Strong Inference of**
 8 **Scienter**

9 340. Beginning in January 2015, in response to rumors regarding the
 10 810's propensity to overheat and Samsung's refusal to use the 810 in the Galaxy
 11 S6 for that reason, Defendants Amon and McDonough issued strident and
 12 unequivocal denials. For example, between January 29 - 31, 2015 – after
 13 receiving more than 9 months of failed thermal testing data and knowing for 3
 14 months that the Samsung loss was due to the 810 overheating – Amon
 15 affirmatively and unequivocally denied any thermal problems with the
 16 Snapdragon 810. He stated: “***We don't see any problem with the 810. . . . I think***
 17 ***there is a lot of misinformation out there*”; and later added, “*Categorically, we***
 18 ***don't see any problem with the chip.*”**

19 341. Similarly, on May 6, 2015, in response to the release of certain
 20 benchmark tests results comparing the 810's performance and heat generation to
 21 other SoCs, and LG's decision to utilize the 808 for the G4 because of the 810's
 22 propensity to overheat, McDonough gave an interview to *Forbes* magazine
 23 wherein he stated that “***[t]he rumours are rubbish, there was not an overheating***
 24 ***problem with the Snapdragon 810 in commercial devices....*” Just six weeks**
 25 later, McDonough gave another interview wherein he stated, “The Snapdragon
 26 810 processor is performing as expected and ***we have not observed any abnormal***
 27 ***thermal issues.*”**

28 342. In making such unequivocal statements, Defendants knew, were
 deliberately reckless in not knowing, and were responsible prior to making such

1 statements for inquiring into, the actual circumstances concerning the subject of
 2 their statements. Indeed, had Defendants Amon and McDonough done any due
 3 diligence regarding the 810 prior to making these statements they would have
 4 known that (1) the 810 had experienced abnormal thermal issues that were not
 5 remedied from its creation in early 2014; and (2) Samsung decided to use its
 6 Exynos chipset because of the 810's abnormal thermal issues.

7 8 **VIII. THE STATUTORY SAFE HARBOR AND BESPEAKS CAUTION DOCTRINE ARE INAPPLICABLE**

9 343. The statutory safe harbor and the bespeaks caution doctrine
 10 applicable to forward-looking statements under the Private Securities Litigation
 11 Reform Act of 1995 do not apply to the misrepresentations and omissions alleged
 12 in this Complaint.

13 344. None of Defendants' historic or present-tense statements alleged
 14 herein was a forward-looking statement because none was an assumption
 15 underlying or relating to any plan, projection, or statement of future economic
 16 performance, as they were not stated to be such assumptions underlying or
 17 relating to any projection or statement of future economic performance when
 18 made, nor were any of the projections or forecasts made by Defendants expressly
 19 related to, or stated to be dependent on, those historic or present-tense statements
 20 when made.

21 345. To the extent that any of the materially false or misleading
 22 statements alleged herein, or any portions thereof, can be construed as forward-
 23 looking, these statements were not accompanied by meaningful cautionary
 24 language identifying important facts that could cause actual results to differ
 25 materially from those in the statements. As set forth above in detail, given the
 26 then-existing facts contradicting Defendants' statements, the generalized risk
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1 disclosures made by Defendants were not sufficient to insulate Defendants from
2 liability for their materially false and misleading statements.

3 346. Defendants are also liable for any false or misleading forward-
4 looking statement alleged herein, or portion thereof, because at the time each
5 forward-looking statement was made, the speaker knew the forward-looking
6 statement was false or misleading, or the forward-looking statement was
7 authorized and approved by an executive officer of Qualcomm who knew that the
8 forward-looking statement was false.

9 **IX. CONTROLLING PERSON ALLEGATIONS**

10 347. By virtue of the Individual Defendants' positions of management
11 and control within the Company, they had access to undisclosed adverse
12 information about Qualcomm's operations and performance, including
13 information regarding the existence and severity of abnormal thermal issues with
14 the Snapdragon 810 and the corresponding loss of a major customer, as
15 particularized herein. The Individual Defendants ascertained such information
16 through Qualcomm's internal corporate documents, conversations, and
17 connections with each other and with corporate officers and employees,
18 attendance at Board of Directors meetings, including committees thereof, and
19 through reports and other information provided to them in connection with their
20 roles and duties as Qualcomm officers, directors, and managers.

21 348. The Individual Defendants participated in the drafting, preparation
22 and/or approval of the various public, shareholder and investor reports and other
23 communications complained of herein, and knew or recklessly disregarded that
24 there were material misstatements and omissions contained therein. Because of
25 their Board or executive or managerial positions with Qualcomm, each of the
26 Individual Defendants had access to the adverse undisclosed information about
27 Qualcomm's operations and performance, including information regarding the
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1 severe and abnormal thermal issues with the Snapdragon 810 and the loss of a
2 major customer, as particularized herein, and knew (or were deliberately reckless
3 in not knowing) that these adverse events rendered the positive representations
4 made by or about Qualcomm and its business, or adopted by the Company,
5 materially false and misleading.

6 349. The Individual Defendants, because of their positions of control and
7 authority as officers or directors of the Company, were able to and did control the
8 content of the various SEC filings, press releases, and other public statements
9 pertaining to the Company during the Class Period. Each Individual Defendant
10 was provided with copies of the documents alleged herein to be misleading before
11 or shortly after their issuance, and had the ability and opportunity to prevent their
12 issuance or cause them to be corrected. Accordingly, each of the Individual
13 Defendants is responsible for the accuracy of the public reports and releases
14 detailed herein, and is therefore primarily liable for the representations therein.

15 350. As officers, directors, and controlling persons of a publicly held
16 company whose common stock is registered with the SEC pursuant to the
17 Exchange Act, and is traded on the NASDAQ, and governed by the provisions of
18 the federal securities laws, the Individual Defendants each had a duty to promptly
19 disseminate accurate and truthful information with respect to the Company's
20 operations and performance, including information regarding the severe and
21 abnormal thermal issues with the Snapdragon 810 and the loss of a major
22 customer, as particularized herein, and to correct any previously issued statements
23 that had become materially misleading or untrue, so that the market price of the
24 Company's publicly-traded securities would be based on truthful and accurate
25 information. The Individual Defendants' material misrepresentations and
26 omissions during the Class Period violated these specific requirements and
27 obligations.
28

1 **X. CLASS ACTION ALLEGATIONS**

2 351. Lead Plaintiff brings this action on behalf of itself and as a class
3 action, pursuant to Rules 23(a) and (b)(3) of the Federal Rules of Civil Procedure,
4 on behalf of a Class consisting of all persons and entities that, during the Class
5 Period, purchased or otherwise acquired the publicly traded common stock of
6 Qualcomm and were damaged thereby. Excluded from the Class are Defendants,
7 members of Defendants' immediate families (as defined in 17 C.F.R. § 229.404,
8 Instructions (1)(a)(iii) and (1)(b)(ii)), any person, firm, trust, corporation, officer,
9 director, or other individual or entity in which any Defendant has a controlling
10 interest, or which is related to or affiliated with any of the Defendants, and the
11 legal representatives, agents, affiliates, heirs, successors-in-interest, or assigns of
12 any such excluded party.

13 352. The members of the Class are so numerous and geographically
14 dispersed that joinder of all members is impracticable. While the exact number of
15 Class members is unknown to Lead Plaintiff at this time and can only be
16 ascertained through appropriate discovery, Lead Plaintiff believes that there are at
17 least thousands of members of the proposed Class. At the end of the Class
18 Period, Qualcomm had more than 1.5 billion shares of common stock issued and
19 outstanding, owned by thousands of persons, and actively traded on the
20 NASDAQ. The disposition of their claims in a class action will provide
21 substantial benefits to the parties and the Court. Record owners and other
22 members of the Class may be identified from records maintained by Qualcomm
23 or its transfer agent, and may be notified of the pendency of this action by a
24 combination of published notice and first-class mail, using the techniques and
25 form of notice similar to that customarily used in class actions arising under the
26 federal securities laws.

27 353. There is a well-defined commonality of interest in the questions of
28 law and fact involved in this case. Questions of law and fact common to the

1 members of the Class that predominate over questions that may affect individual
2 Class members include:

3 (a) whether Defendants' actions as alleged herein violated the
4 federal securities laws;

5 (b) whether Defendants' statements and/or omissions issued
6 during the Class Period were materially false and misleading;

7 (c) whether Defendants knew or were deliberately reckless in not
8 knowing that their statements were false and misleading;

9 (d) whether and to what extent the market prices of Qualcomm
10 publicly traded common stock were artificially inflated and/or distorted
11 before and/or during the Class Period due to the misrepresentations and/or
12 omissions of material fact alleged herein; and

13 (e) whether and to what extent Class members sustained damages
14 as a result of the conduct alleged herein, and the appropriate measure of
15 damages.

16 354. Lead Plaintiff's claims are typical of the claims of the other members
17 of the Class, as all members of the Class purchased or otherwise acquired
18 Qualcomm publicly traded securities during the Class Period and similarly
19 sustained damages as a result of Defendants' wrongful conduct as alleged herein.

20 355. Lead Plaintiff will fairly and adequately protect the interests of the
21 members of the Class. Lead Plaintiff has retained counsel competent and
22 experienced in class action securities litigation to further ensure such protection,
23 and intends to prosecute this action vigorously. Lead Plaintiff has no interests
24 that are adverse or antagonistic to those of the Class.

25 356. A class action is superior to other available methods for the fair and
26 efficient adjudication of this controversy. Because the damages suffered by each
27 individual member of the Class may be relatively small, the expense and burden
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1 of individual litigation make it impracticable for Class members to seek redress
 2 for the wrongful conduct alleged herein. Lead Plaintiff knows of no difficulty
 3 that will be encountered in the management of this litigation that would preclude
 4 its maintenance as a class action.

5 **XI. LEAD PLAINTIFF AND CLASS MEMBERS ARE**
 6 **ENTITLED TO A PRESUMPTION OF RELIANCE**

7 357. Lead Plaintiff and members of the Class are entitled to rely upon the
 8 presumption of reliance established by the fraud-on-the-market doctrine in that,
 9 among other things:

10 (a) Defendants made public misrepresentations or failed to
 11 disclose material facts during the Class Period;

12 (b) the omissions and misrepresentations were material;

13 (c) Qualcomm common stock traded in efficient markets;

14 (d) the material misrepresentations and omissions alleged herein
 15 would tend to induce a reasonable investor to misjudge the value of
 16 Qualcomm common stock; and

17 (e) Without knowledge of the misrepresented or omitted facts,
 18 Lead Plaintiff and other members of the Class purchased or otherwise
 19 acquired Qualcomm common stock between the time that Defendants made
 20 material misrepresentation and omissions and the time the concealed risks
 21 materialized or the true facts were disclosed.

22 358. At all relevant times, the market for Qualcomm common stock was
 23 open and efficient for the following reasons, among others:

24 (a) as a registered and regulated issuer of securities, Qualcomm
 25 filed periodic public reports with the SEC, in addition to the Company's
 26 frequent voluntary dissemination of information;

27 (b) Qualcomm regularly communicated with public investors via
 28 established market communication mechanisms, including through regular

1 disseminations of press releases on the national circuits of major newswire
2 services and through other wide-ranging public disclosures, such as
3 communications with the financial press, securities analysts, and other
4 similar reporting services;

5 (c) Qualcomm was followed by numerous securities analysts
6 employed by major brokerage firms who wrote reports that were
7 distributed to the sales force and certain customers of their respective
8 brokerage firms and that were publicly available and entered the public
9 marketplace; and

10 (d) Qualcomm common stock met the requirements for listing,
11 and was listed and actively traded on highly efficient markets, including
12 NASDAQ, where the Company's common stock trades under the ticker
13 symbol "QCOM."

14 359. As a result of the foregoing, the markets for Qualcomm common
15 stock promptly digested current information regarding Qualcomm from all
16 publicly available sources, and the prices of Qualcomm's stock reflected such
17 information.

18 360. Based upon the materially false and misleading statements and
19 omissions of material fact alleged herein, Qualcomm common stock traded at
20 artificially inflated prices during the Class Period. Lead Plaintiff and the other
21 members of the Class purchased Qualcomm common stock relying upon the
22 integrity of the market price of Qualcomm common stock and other market
23 information relating to Qualcomm.

24 361. Under these circumstances, all purchasers of Qualcomm common
25 stock during the Class Period suffered similar injuries through their purchases at
26 artificially inflated prices, and a presumption of reliance applies.
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362. Further, at all relevant times, Lead Plaintiff and other members of the Class reasonably relied upon Defendants to disclose material information as required by law and in the Company's SEC filings. Lead Plaintiff and the other members of the Class would not have purchased or otherwise acquired Qualcomm common stock at artificially inflated prices if Defendants had disclosed all material information as required. Thus, to the extent that Defendants concealed or improperly failed to disclose material facts with regard to the Company and its business, Lead Plaintiff is entitled to a presumption of reliance in accordance with *Affiliated Ute Citizens of Utah v. United States*, 406 U.S. 128, 153 (1972).

XII. CAUSES OF ACTION

COUNT I

Asserted Against All Defendants for Violations of Section 10(b) of the Securities Exchange Act of 1934 and SEC Rule 10b-5 Promulgated Thereunder

363. Lead Plaintiff repeats and realleges each and every allegation contained above as if fully set forth herein. This Count is brought pursuant to Section 10(b) of the Exchange Act, 15 U.S.C. § 78j(b), and Rule 10b-5 promulgated thereunder by the SEC, 17 C.F.R. § 240.10b-5, on behalf of Lead Plaintiff and all other members of the Class against Qualcomm and the Individual Defendants.

364. During the Class Period, Defendants carried out a plan, scheme and course of conduct which was intended to and, throughout the Class Period, did: (i) deceive the investing public, including Lead Plaintiff and other Class members, regarding the intrinsic value of Qualcomm common stock, as alleged herein; (ii) artificially inflate the price of Qualcomm common stock; and (iii) cause Lead Plaintiff and other members of the Class to purchase Qualcomm common stock at artificially inflated prices that did not reflect their true value. In furtherance of

1 this unlawful scheme, plan and course of conduct, Defendants took the actions set
2 forth herein.

3 365. Defendants directly and indirectly, by the use of means and
4 instrumentalities of interstate commerce, the mails, and/or the facilities of a
5 national securities exchange: (i) employed devices, schemes, and artifices to
6 defraud; (ii) made untrue statements of material fact and/or omitted material facts
7 necessary to make the statements not misleading; and (iii) engaged in acts,
8 practices, and a course of business that operated as a fraud and deceit upon the
9 purchasers of the Company's common stock in an effort to maintain the
10 artificially inflated price of Qualcomm common stock in violation of Section
11 10(b) of the Exchange Act, and Rule 10b-5 promulgated thereunder.

12 366. Defendants employed devices, schemes, and artifices to defraud
13 while in possession of material adverse nonpublic information and engaged in
14 acts, practices, and a course of conduct as alleged herein in an effort to assure
15 investors of Qualcomm's value and performance, which included the making of
16 untrue statements of material facts and omitting material facts necessary in order
17 to make their statements, in light of the circumstances under which they were
18 made, not misleading, as set forth more particularly herein. Defendants did not
19 have a reasonable basis for their alleged false statements and engaged in
20 transactions, practices, and a course of business which operated as a fraud and
21 deceit upon the purchasers of Qualcomm common stock during the Class Period.

22 367. Defendants are liable for all materially false and misleading
23 statements and omissions made during the Class Period, as alleged above,
24 including the false and misleading statements and omissions included in press
25 releases, conference calls, SEC filings, news media, blogs, and Qualcomm's
26 website.

1 368. Defendants are further liable for the false and misleading statements
2 made by Qualcomm's officers, management, and agents in press releases,
3 conference calls, conferences with investors and analysts, news media, blog
4 reports, and Qualcomm's website, as alleged above, as they either made or
5 controlled such statements and had ultimate authority and responsibility for the
6 contents thereof.

7 369. Defendants' material misrepresentations and/or omissions were done
8 knowingly or with recklessness, and without a reasonable basis, for the purpose
9 and effect of concealing from the investing public the relevant truth, and
10 misstating the intrinsic value of Qualcomm common stock. By concealing
11 material facts from investors, Defendants maintained the Company's artificially
12 inflated common stock prices throughout the Class Period.

13 370. Without knowledge of the fact that the price of Qualcomm common
14 stock was artificially inflated, and relying directly or indirectly on the false and
15 misleading statements and omissions made by Defendants, or upon the integrity
16 of the market in which the common stock trades, and/or on the absence of
17 material adverse information that was known to or recklessly disregarded by
18 Qualcomm but not disclosed in public statements by Qualcomm during the Class
19 Period, Lead Plaintiff and the other members of the Class purchased or acquired
20 Qualcomm common stock during the Class Period at artificially high prices and
21 were damaged when that artificial inflation was removed from the price of
22 Qualcomm common stock.

23 371. At the time of said misrepresentations and omissions, Lead Plaintiff
24 and other members of the Class were ignorant of their falsity, and believed them
25 to be true. Had Lead Plaintiff, the other members of the Class, and the
26 marketplace known of the truth concerning the Company's conduct and the
27 intrinsic value of Qualcomm's common stock, Lead Plaintiff and other members
28

1 of the Class would not have purchased or acquired their Qualcomm common
 2 stock, or, if they had purchased or acquired such common stock during the Class
 3 Period, they would not have done so at the artificially inflated prices they paid.

4 372. By virtue of the foregoing, Defendants have violated Section 10(b)
 5 of the Exchange Act and Rule 10b-5 promulgated thereunder.

6 373. As a direct and proximate result of Defendants' wrongful conduct,
 7 Lead Plaintiff and the other members of the Class suffered damages in connection
 8 with their respective purchases and/or acquisitions of Qualcomm common stock
 9 during the Class Period.

10 **COUNT II**

11 **Asserted Against the Individual Defendants for Violations 12 of Section 20(a) of the Securities Exchange Act of 1934**

13 374. Lead Plaintiff repeats and realleges each and every allegation
 14 contained above as if fully set forth herein. This Count is brought pursuant to
 15 Section 20(a) of the Exchange Act, 15 U.S.C. § 78t(a), on behalf of Lead Plaintiff
 16 and all other members of the Class against the Individual Defendants.

17 375. At all relevant times during the Class Period, as set forth in ¶¶ 31-38,
 18 *supra*, Mollenkopf was the Company's CEO and a member of the Company's
 19 Board of Directors; Aberle was the Company's President; Renduchintala was an
 20 Executive Vice President of Qualcomm, and Co-President of the Company's
 21 QCT division; Amon was also an Executive Vice President of Qualcomm and
 22 Co-President of the Company's QCT division; and McDonough was the
 23 Company's Senior Vice President, Global Marketing. As such, the Individual
 24 Defendants had regular access to non-public information about Qualcomm's
 25 business, operations, performance, and future prospects through access to internal
 26 corporate documents and information, conversations, and connections with other
 27 corporate officers and employees, attendance at management meetings and
 28

1 meetings of the Company's Board and committees thereof, as well as reports and
2 other information provided to them in connection therewith.

3 376. The Individual Defendants acted as controlling persons of
4 Qualcomm and the other Individual Defendants within the meaning of Section
5 20(a) of the Exchange Act as alleged herein. By virtue of their high-level
6 positions, and their ownership and contractual rights, participation in and/or
7 awareness of Qualcomm's day-to-day operations, and/or knowledge of statements
8 filed by the Company with the SEC and/or disseminated to the investing public,
9 the Individual Defendants had the power to influence and control, and did
10 influence and control, directly or indirectly, the decision-making of the Company
11 and its executives, including the content and dissemination of the various
12 statements that Lead Plaintiff contends are false and misleading.

13 377. The Individual Defendants were provided with or had unlimited
14 access to copies of the Company's reports, press releases, public filings and other
15 statements alleged by Lead Plaintiff to be misleading prior to and/or shortly after
16 these statements were issued and had the ability to prevent the issuance of the
17 statements or cause the statements to be corrected.

18 378. In particular, each of these Individual Defendants had direct and
19 supervisory involvement in and control of the day-to-day operations of the
20 Company and, therefore, is presumed to have had the power to control or
21 influence the particular conduct and transactions giving rise to the securities
22 violations as alleged herein, and exercised the same.

23 379. As set forth above, Qualcomm and the Individual Defendants each
24 violated Section 10(b) and Rule 10b-5 by their acts, statements and omissions as
25 alleged in this Complaint. By virtue of their positions as controlling persons, the
26 Individual Defendants are liable pursuant to Section 20(a) of the Exchange Act.
27 As a direct and proximate result of Defendants' wrongful conduct, Lead Plaintiff
28

1 and other members of the Class suffered damages in connection with their
 2 purchases of Qualcomm common stock during the Class Period.

3 **XIII. PRAYER FOR RELIEF**

4 WHEREFORE, Lead Plaintiff prays for judgment as follows:

5 A. Declaring this action to be a proper class action pursuant to Rule 23
 6 of the Federal Rules of Civil Procedure;

7 B. Awarding Lead Plaintiff and the members of the Class damages and
 8 interest thereon;

9 C. Awarding Lead Plaintiff's and the Class's reasonable costs,
 10 including attorneys' and experts' fees; and

11 D. Awarding such equitable, injunctive or other relief that the Court
 12 may deem just and proper.

13 **XIV. JURY DEMAND**

14 Lead Plaintiff demands a trial by jury.

15
 16 Respectfully submitted,

17 Dated: March 17, 2017

18 By: /s/ Andrew L. Zivitz
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