

Plaintiff's Closing Statement

Federal Trade Commission

v.

Qualcomm Incorporated

Case No. 17-cv-00220-LHK (N.D. Cal.)

January 29, 2019



Qualcomm Grew its Chip and Licensing Businesses on the Basis of its FRAND Commitments

Irwin Jacobs, founder and CEO:

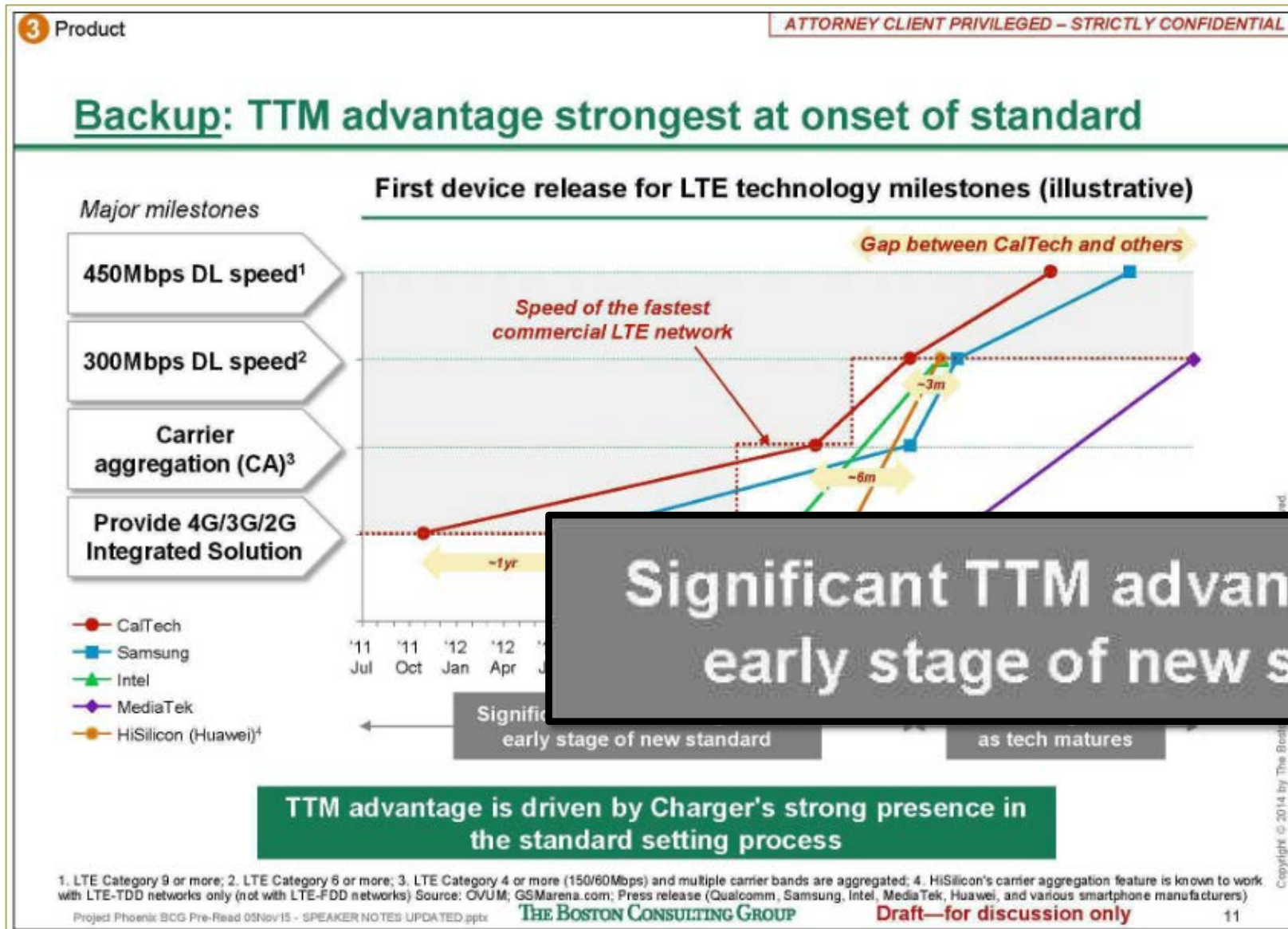
Q. But Qualcomm determined that there was a commercial benefit in going through a standard setting organization, such as the TIA; right?
A. Well, a number of the operators also urged us to go through the standards process, and so yes...

Q. And in order to develop a standard certified by TIA, Qualcomm knew that it had to make a FRAND commitment; right?
A. That's correct.

Q. And Qualcomm wanted to sell as many chips as it could; Right?
A. We certainly did want to build our chip business, yes.

I. Jacobs Tr. 1280:12-1281:25

Qualcomm Has Historically Maintained Modem Chip Lead

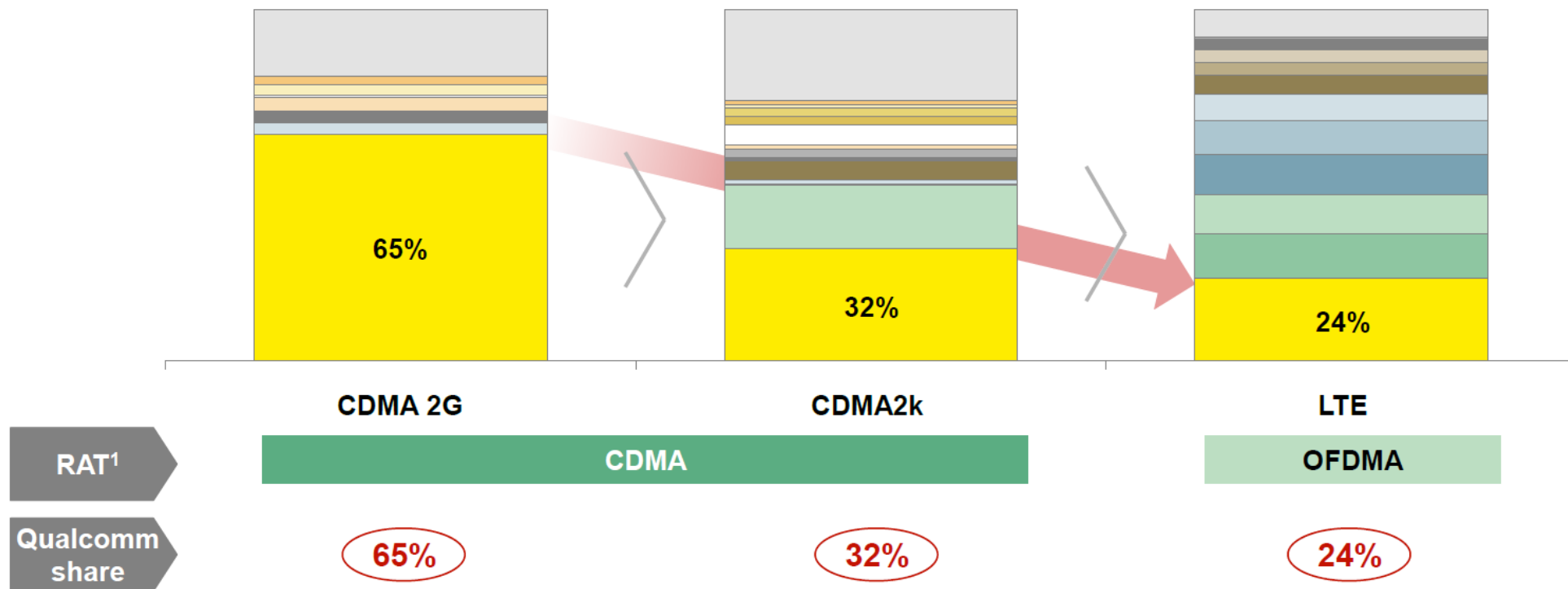


CX3755-015

Qualcomm's Declining SEP Share

Qualcomm SEP share has declined with successive standards

All SEP listed for CDMA(2G) / CDMA2K(3G) / LTE(4G)



CX6594-067 (excerpt, BCG)

See also Donaldson Tr. 971:7-972:6; CX1785 (Mark Davis: "The strength of [Qualcomm's] patent position does not justify their royalties, and it has not for a long time."); CX6528 ("As to term, it makes sense to keep it short for c2k since half your [i.e., Qualcomm's] patents have expired or will expire in 3-5 years."); Grubbs Dep. 234:22-235:15.

Diminishing Value of Standard-Essential Technology to Smartphones

Landscape



- **Multimedia & Internet Services are the new differentiators**
 - Past: Modem Leadership Drove Value
 - **Now: Best User Experience Drives Value**

CX7559-018

Michael Lasinski (FTC Expert)

First, when you look at what the, the way the industry was developed...there's a lot more applications going on on smartphones than at that time. For example, they not only have modem chip, now they have application processors on them. Also, at that time there were estimates on how much data would be offloaded to Wi-Fi networks, and it turns out that significantly more data is being offloaded to Wi-Fi networks.

Lasinski Tr. 1015:21-1016:3

Richard Donaldson (FTC Expert)

When rates were first established back when CDMA was used in telephones ... it was just a cell phone. No other capabilities. And those products have changed dramatically over the life since then and we now have smartphones with many, many features that do not infringe the cellular patents, the SEPs. So I would expect that to drive a lower royalty rate.

Donaldson Tr. 971:7-14

Aviv Nevo (Qualcomm Expert)

Q. The product in which the I.P. was going to be used changed dramatically over that time, correct?
A. Cell phones did, yeah, they clearly changed.

Nevo Tr. 1944:14-16

Jeff Andrews (Qualcomm Expert)

Q. And users that have LTE enabled phones that also have Wi-Fi can use the Wi-Fi for data transmission; is that correct?
A. Assuming they're connected to a Wi-Fi access point that works, yes.

Andrews Tr. 1615:5-8

Market Definition: Hypothetical Monopolist Test (“HMT”)

Prof. Shapiro applied the HMT to test the existence of markets for CDMA modem chips and Premium LTE modem chips. Shapiro Tr. 1153:8-1154:21, 1159:14-1160:9.

Dr. Chipty agrees the HMT is the correct test, but made no attempt to implement it to test the existence of either relevant market. Chipty Tr. 1740:6-1742:17

6 Q. NOW, YOU WOULD AGREE WITH DR. SHAPIRO THAT THE
7 HYPOTHETICAL MONOPOLIST TEST IS AN APPROPRIATE METHOD FOR
8 IDENTIFYING A RELEVANT PRODUCT MARKET; RIGHT?
9 A. YES, I DO BELIEVE THAT THE HYPOTHETICAL MONOPOLIST TEST SO
10 REASONABLE FRAMEWORK WITHIN WHICH TO GO ABOUT DEFINING A
11 MARKET.

Chipty Tr. 1740:6-11

3 Q. AND, IN FACT, YOU'RE NOT OFFERING THE COURT ANY OPINION,
4 ONE WAY OR THE OTHER, AS TO WHETHER OR NOT THERE IS A MARKET
5 FOR CDMA CHIPSETS; IS THAT RIGHT?
6 A. THAT'S CORRECT.
7 Q. AND YOU'RE NOT OFFERING THE COURT ANY OPINION, ONE WAY OR
8 THE OTHER, AS TO WHETHER THERE IS A MARKET FOR PREMIUM LTE
9 CHIPSETS; RIGHT?
10 A. WELL, WHAT I'VE SAID IS THAT I DON'T AGREE WITH
11 PROFESSOR SHAPIRO'S MARKET. BUT I HAVE NOT OFFERED AN
12 AFFIRMATIVE ALTERNATIVE.

Chipty Tr. 1742:3-12

Market Definition: *Brown Shoe* Factors

Industry recognition of distinct competitors and products. *E.g.*, CX8191-089 (Qualcomm only merchant supplier of premium tier SOCs in 2017); Moynihan Tr. 365: 1-4 (Mediatek has “not closed the gap” in premium tier and high tier modem chips); Madderom Dep. 140:13-18 (use of non-premium-tier cellular modem in a premium-tier handset is not a “viable approach”).

Distinct Pricing and Margins:

- **CDMA:** CX5294-002, Amon Tr. 484:17-485:7 (“[T]here is an overall \$4.50-7.00 delta between the chipset price of CDMA and its equivalent UMTS.”); JX0107-013 (CDMA adder); Amon Tr. 483:13-15 (Qualcomm has “historically priced CDMA based on value rather than cost”); CX 5393 (“Our price is not based on cost but on value.”); Chipty Tr. 1745:20-1748:25.
- **Premium LTE:** Blevins Tr. 673:18-22 (“A premium chip would cost roughly double what we determine a non-premium chip would cost.”); CX5551-013, Wyatt Tr. 433:12-434:7, 434:25-435:13 (QCT projects higher margins for premium tier as compared to mid and low tiers); CX6837-039, CX8299, Wise Tr. 89:5-25, 90:20-91:2 (QCT depends on higher prices and margins higher in premium tier).

Monopoly and Market Power

Premium LTE

“[I]n the 2011 time frame, [there] would not have been any other viable sources for LTE targeting the early 2013 time frame for release.”

Grubbs Dep. 215:12-216:1

“Motorola continues to believe that the only viable path to a high-end phone is a Qualcomm chipset.”

Blumberg Dep. 155:12-156:11

See also Madderom Dep. 235:3-10 (“I’ve been working for almost six years trying to bring up a competitor to Qualcomm in premium tier, and I’ve never been successful”); Amon Tr. 479:10-14 (Qualcomm “first to market with every transition of LTE”); Shapiro Tr. 1158:1-12); Blevins Tr. 674:3-8; Chipty Tr. 1740:1-5 (Qualcomm had “earned market power” in LTE chips at various points in time); Moynihan Tr. 324:25-325:2 (Mediatek has not “really penetrated ever what I would call the premium tiers in the market...”); CX7251-004 (“MediaTek not an alternative chip provider for QCT customers”).

CDMA

“Qualcomm has not really had significant competition in CDMA.”

Madderom Dep. 206:4-18

“[A]t certain points we had high percentages of the market for cdma2000 chips....”

Jacobs Dep. 157:21-158:5

See also Blevins Tr. 684:1-4 (“[W]e rapidly came to the conclusion that our only [CDMA] alternative was Qualcomm.”); CX5393-001 (Qualcomm CDMA price “is not based on cost but on value”); Amon Tr. 483:13-15 (Qualcomm has “historically priced CDMA based on value rather than cost”); Jacobs Dep. 157:21-158:05 (“[A]t certain points we had high percentages of the market for cdma2000 chips....”); CX5402-003 (“[W]ithout us they would lose big parts of North America, Japan, and China.”); Thompson Tr. 1384:9-14; Shapiro Tr. 1157:7-10; Chipty Tr. 1739:16-22, 1744:13-1745:5.

Monopoly and Market Power: High Market Shares

Handset TAM / Share / QCT Units

OEM	HS Price	TAM				Share				QCT Units			
		Act FY14	Apr OL FY15	Strat FY16	Strat FY17	Act FY14	Apr OL FY15	Strat FY16	Strat FY17	Act FY14	Apr OL FY15	Strat FY16	Strat FY17
Samsung	Premium	119	105	98	95	73%	50%	41%	47%	86	52	40	45
	High	43	88	83	85	81%	79%	47%	45%	35	70	39	38
	Mid	167	114	116	108	36%	25%	30%	35%	60	29	35	38
	Low/Entry	33	22	16	15	23%	13%	19%	19%	8	3	3	3
Samsung	Total	362	329	313	303	52%	47%	37%	41%	189	153	117	124
Maverick	Premium	169	209	201	201	100%	100%	90%	64%	169	209	181	128
	High	18	38	31	40	100%	100%	90%	64%	18	38	28	26

Total	Premium	346	373	363	363	89%	85%	77%	64%	309	317	280	231
	High	151	241	237	262	79%	84%	68%	60%	119	202	161	158
	Mid	370	369	418	443	51%	53%	51%	50%	190	195	212	220
	Low/Entry	421	443	536	612	39%	30%	29%	25%	162	135	154	151
Total HS	Total	1,287	1,426	1,554	1,680	61%	60%	52%	45%	780	849	808	760

CX5551-010

QCT CDMA ASIC Market Share

Market	CY2015 Q2	CY2015 Q3	CY2015 Q4	CY2016 Q1	CY2016 Q2	CY2016 Q3	CY2016 Q4	CY2017 Q1
China	97%	97%	95%	93%	96%	90%	83%	79%
Europe-Eastern	100%	77%	72%	68%	93%	98%	93%	96%
Europe-Western	100%	100%	100%	100%	100%	100%	99%	100%
India	100%	100%	100%	100%	100%	100%	100%	0%
Japan	100%	100%	100%	100%	100%	100%	100%	100%
Korea	100%	100%	100%	100%	100%	100%	100%	100%
Latin America	100%	100%	100%	87%	100%	100%	100%	100%
MEA	100%	100%	100%	100%	100%	99%	78%	96%
North America	99%	99%	99%	99%	98%	98%	98%	97%
SEA	70%	100%	100%	100%	100%	95%	89%	83%
Worldwide	98%	99%	98%	96%	97%	95%	92%	92%

See also CX8190-067-068; CX6837-039; CX7629-026. (Qualcomm ordinary course share/margin calculations); CDX0201-012-015, Shapiro Tr. 1154:22-1157:6 (CDMA), 1160:10-1162:15 (Premium LTE). (Dr. Shapiro's market share calculations).

Monopoly Power and Exclusionary Conduct Establish Monopolization

Elements of Monopolization:

(1) “monopoly power in the relevant market” and (2) “willful acquisition or maintenance of that power” through exclusionary conduct

United States v. Grinnell Corp., 384 U.S. 563 (1966); *Eastman Kodak Co. v. Image Tech. Servs., Inc.*, 504 U.S. 451, 481 (1992).

In light of direct evidence of Qualcomm’s market power, market shares more than sufficient to establish monopoly power

E.g., *Syufy Enters. v. Am. Multicinema, Inc.*, 793 F.2d 990, 995–1000 (9th Cir.1986) (60–69% market share sufficient for finding of monopoly power); *Oahu Gas Serv., Inc. v. Pac. Res., Inc.*, 838 F.2d 360, 366 (9th Cir. 1988) (“[M]arket share is just the starting point for assessing market power. . . . A declining market share . . . does not foreclose a finding of [market] power.”); *Pac. Coast Agr. Exp. Ass’n v. Sunkist Growers, Inc.*, 526 F.2d 1196, 1204 (9th Cir. 1975) (“Sunkist’s control of the Hong Kong export market ranged from 45 to 70%...it is now well settled that market share, while being perhaps the most important factor, does not alone determine the presence or absence of monopoly power... These facts adequately support the jury’s finding that defendants possessed monopoly power in the relevant market.”).

No License-No Chips: A Long-Standing, Developed Policy

From: Jeff Altman
Sent: Wednesday, April 27, 2005 10:55 PM
To: bcorlett
Subject: QUALCOMM licensing program

<http://www.qualcomm.com/technology/licensing.html>

There are 3 primary considerations of any license agreement we would enter into,

- 1) **Up-front fee.** This is dependent upon the air interface and the type of product to be developed. Since I don't know what Apple is contemplating I can't really say what this up-front fee would be. A typical handset agreement for one CDMA air interface is \$5mil while the up-front fee to include both cdma2000 and WCDMA/TDS-CDMA is \$10mil.
- 2) **Royalty rates** are based on the net selling price of your product sold to an unaffiliated 3rd party on a quarterly. Again, presuming your interest is more in the line of a typical handset, the royalty rate is based on quarterly volume and ranges between 6.5% to 5%.
- 3) **Required cross license** of your company's intellectual property back to QUALCOMM. This is to protect our ASIC group so that they have design flexibility in enhancing their product without infringing upon a licensee's intellectual property.

Once this patent license has been completed, licensee would then have the rights to purchase chips, software, reference designs from our ASIC group (called QCT) or one of our other ASIC licensed suppliers. Licensee could also develop its own CDMA baseband for use in its licensed product.

No License-No Chips: Part of Every Modem Chip Supply Agreement

Qualcomm's Component Supply Agreements generally prohibit use of chips in unlicensed handsets. Aberle Tr. 254:4-7.

11. INTELLECTUAL PROPERTY. The sale of Products to Buyer does not convey to Buyer (or its Affiliates) any intellectual property rights in such Products, including but not limited to any rights under any patent, trademark, copyright, or trade secret. Except as expressly provided in Paragraph 8 of this Agreement, **Buyer (and its Affiliates) may not use or sell any Product, alone or in combination with other software or components, without a separate license from QUALCOMM Incorporated** under all applicable patents,

13. TERM AND TERMINATION.

within sixty (60) days after written notice of such failure. **In addition, QUALCOMM may terminate this Agreement if 'Buyer is in default under the License and such default is not cured within the cure period specified therein.**

CX6803-006,-007

“To my knowledge, we have never shipped commercial quantities of chips to a company without a license.”

Aberle, CX6522-005

See also Mollenkopf Tr. 756:9-19; CX8287-001 (“Isn't that part of every CSA?”); CX1006 (Huawei); JX0093 (Blackberry); Cho Tr. 923:1-924:2. Qualcomm will only sell chips to licensees. Gonell Tr. 1417:7-10; Aberle Tr. 250:5-17; Mollenkopf Tr. 755:18-21, 842:25-843:11; Reifschneider Dep. 26:17-25. NLNC policy is well known among Qualcomm's customers. Mollenkopf Tr. 803:8-10; Reifschneider Dep. 33:17-34:2; Yu Dep. 54:22-24.

Qualcomm's Chip-Supply "Reminders"

To: Altman, Steve[saltman@qualcomm.com]; Wang, Jing[jingw@qualcomm.com]; Jacobs, Paul[pjacobs@qualcomm.com];

From:
Sent:
Importance:
Subject:
Received:

Let me know if you have any question. Feel free to give me a call on my cell tomorrow morning my time if you need clarification.

Attachments:

As:
Jing:
incre:

On:
a 10:
The:
think:
we r:

From:
To:
Subject:
Date:

From: Aberle, Derek

Sent: Thursday, April 14, 2011 4:14 AM

To: Wang, Jing; Hartogs, Mike; Cobb, Greg; Dwight, Deborah; An, Xiaopeng (Robert An)

Subject: Fwd: ZTE conf call - Legal Privilege

Good:
bigg:

Jing,

Below as a reminder for background is the last couple exchanges with ZTE and Mike's summary of the last

Sen:

From:
Date:
Subject:
To:

They should also consider the impact on their business in the US (e.g., with VZW) if we are forced to sue them for patent infringement. Finally, they should be reminded that we do not supply chips to companies that are not licensed.

FYI:
licen:
or fa:
find:
from:
and:

CX6658-005-006

Sen:

Strategic Fund Agreement

-Starting in the quarter in which we sign we have proposed 1.5% of QCT chipset purchases for 2011, 1.75% for 2012, 2% for 2013, 2.25% for 2014 and 2.5% for 2015 and thereafter. To close the deal, I would be willing to increase the 2011 percentage to 1.75%. I would also be willing to consider a one-time contribution to the fund of \$10M if we can get agreement on all other issues.

Be:

Infrastructure Agreement

-Needs to cover CDMA2000, WCDMA and OFDMA, including LTE-FDD and TDD in China as well as

F:
HIGH:

FOIA CONFIDENTIAL TREATMENT REQUESTED BY QUALCOMM
HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

Q2014FTC01489225
Q2017MDL1_01328433

CX6658-005

See also CX1000 (Huawei); CX6522 (Sony); Reifschneider Dep. 34:3-5; 50:17-51:9.

Qualcomm Claims It Gave “Reminders”—OEMs Heard Threats

SONY

From: Pearl, Jonathan [mailto:jonathan.pearl@sonyericsson.com]

Sent: Wednesday, February 14, 2013

To: Reifschneider, Jonathan

Cc: Derek Abeles

Subject: RE: D

Finally – I am sure that in raising the imminent delivery of Q chipsets that you are not threatening to withdraw or delay chipset supplies. Sony Mobile is Qualcomm’s 3rd largest customer for chipsets and such an action would bring this company to a virtual standstill. In the present circumstances this would seem to be a highly questionable tactic and would unlikely be considered as fair, or reasonable. But I would be grateful if you would kindly confirm.

CX7650-001 & -002

Redacted



“From Huawei's perspective, based on all the e-mails that has been exchanged at that time period and what the Qualcomm team has expressed orally, we considered that as a strong threat of stopping the chipset supply”

Yu Dep. 68:14-23; see also CX5231-001 & -003.

Qualcomm Employees Knew “Threats” Had Been Delivered

we discontinue chip supply for the small handful of customers/licensees who have stopped reporting and paying royalties altogether (BBK, Gionee, OPPO, perhaps one or two other small customers) – and make sure they understand why.

(Actually for BBK, Gionee, and OPPO, as a result of our meeting with NDRC last week **I think we are now in a position to cut off, or threaten to cut off, all chip supply** if they don't immediately report the royalties owed for sales of CDMA and WCDMA devices in the March quarter, and I think we should consider doing this.)

CX6530 (Internal Qualcomm Email from Eric Reifschneider)

From: Steve Altman [mailto:saltman@qualcomm.com]
Sent: Wednesday, October 06, 2004 9:59 PM
To: Thornley, Tony; Jacobs, Jeff; Jacobs, Paul; Jha, Sanjay; Johnson, Peggy; Keitel, Bill
Cc: Blecker, Marv
Subject: Re: Fwd: Re: Fwd: RE: Qualcomm Claims.

CX8281

Peggy has some terminals that she is counting on being delivered in October. **We have made the threat.** Hopefully, they will respond positively. If they don't respond, I will try to hold off any termination until after we receive the terminals.

At 08:04 PM 10/6/2004, Tony Thornley wrote:

A situation we should work hard to fix rather than terminate. However, **the threat may be what is needed.**

Eric constantly threatening to cut off supply. Still off the deal.

CX7024-001 (Notes from Cristiano Amon re: meeting with Motorola/Lenovo: “Licensing ⇒ Eric [Reifschneider] constantly threatening to cut off supply”); Amon Tr. 511:23-512:18.

Actual Supply Disruption Usually Unnecessary

“Again, none of this has ever happened, but if a company would have materially breached their agreement requiring us to enforce and terminate, so they weren't honoring our IP, then we would not ship our chips to them and that would be the case if they just decided they were going to breach with respect to CDMA 2000 or CDMA 1x or IS 95.”

Altman Tr. 187:23-189:8 (discussing CX6729)

Q There wasn't a disruption in Huawei's supply of CDMA chips, was there?

A There wasn't, because we extended the license agreement.

Yu Dep. 69:24-70:2

When faced with license termination threat, Samsung quickly capitulated:

Qualcomm Threatens

agreement. Thus, if Samsung persists in taking the position that its license agreement does not cover 1X and does not pay QUALCOMM the 1X royalties due under the agreement, we will have no choice but to take all action necessary to enforce the terms of our license agreement, including possible termination. Under our agreements, we do not ship ASICs to non-licensees or to licensees who are not performing their obligations.

8/24/01 Email from Steve Altman, President, Qualcomm (CX6729-002)

Samsung Gives In

>Regarding the 1X royalty issue, please be assured that I will put forth
>my personal efforts in proceeding forward. I will remit the 1X royalty
>payment immediately upon completion of the necessary calculations. I

8/31/01 Email from K.T. Lee, President, Information & Communications Business, Samsung (JX0014-001)

OEMs Testified: No License-No Chips Policy Created Royalty Leverage



"We were afraid that if we pushed too hard, they would shut off our supply of chipsets -- of CDMA chipsets." Grubbs Dep. 237:17-238:4

"Qualcomm has a much easier time of negotiating very high royalties because they have this extralegal remedy." Blumberg Dep. 229:15-230:7

"Without a license from Qualcomm, there is no supply as to chipsets. ...Qualcomm enjoyed a much stronger position, a much stronger leverage over Samsung." Lee Dep. 235:20-236:1

Qualcomm "said if we do not extend CDMA license agreement, they would stop supplying the chipset to us, and it would be a disruption of Huawei's business." Yu Dep. 54:18-24.

"We needed their chip supply, and if we tried to pursue them legally, then we wouldn't have access to the chips." Williams Tr. 888:19-889:13

See also Chong Dep. 245:24-246:4; Yang Dep. 226:19-20, 226:4-227:5; Donaldson Tr. 962:19-963:3.

Qualcomm Recognizes: No License-No Chips Provides Royalty Leverage

Project Berlin (2007-2008)

Risk identified by Qualcomm:

Q. Qualcomm also recognized at this time a separate concern that a spin would make it more difficult to sign new license agreements with companies that were not currently licensed; is that fair?

A. I think – I think it’s – I think it’s reasonably fair, yeah.

Altman Tr. 205:6-11

“Without chip business, more licensees/potential licensees might fight QTL license demands”

CX6605-003

See *also* CX7035-001 (consider the fact that the only companies that have attacked us today are companies that essentially purchase little or no ASICs from us...”); CX7279 (Spin “[c]an hurt QTL’s leverage to negotiate 3G renewals and 4G(OFDMA) licensing deals (ie. LG)”).

Project Phoenix (2015):

“Separation could weaken [QTL] in rate negotiations with major customers”

CX3755-003

See *also* Wise Tr. 95:15-96:8; CX5417-001 (“[A]s long as QCT has a very high share, they are beneficial to QTL”); CX5953-005 (“[W]here QCT remains strong, it should continue to provide the ‘give/get’ necessary to support the licensing business”).

Qualcomm's "Partners" Have a Dim View of No License-No Chips

Qualcomm



CEO Steve Mollenkopf:

“We only sell . . . to companies with a license because not all of the I.P. is actually covered in the chip. And so what we want to make sure is that the OEMs are covered.”

“[W]e tend to have a fairly close relationship at a senior level with our customers. We actually call them partners.”

(Tr. 803:25–804:19; 807:15–808:21)

Lenovo

“I believe Qualcomm's licensing results are so thoroughly tainted by its improper behavior, threatening supply, it has established a very good track record of excessive royalty rates...”

Blumberg (Lenovo) Dep. 272:25–273:17

BlackBerry

“BlackBerry was afraid that Qualcomm would shut off the supply”

Grubbs (Blackberry) Dep. 237:17–238:4



“We thought Qualcomm would use whatever leverage it had because Qualcomm often mentioned termination of the supply agreement. As threatened in the letter, we thought Qualcomm would do something about LGE's baseband chipset supply.

Cho (LG Electronics) Tr. 930:18–931:3

SAMSUNG

“[C]ompanies that do not have a license from Qualcomm do not get to be provided with chips by Qualcomm. And Qualcomm happens to enjoy a monopolistic position within the chipset market. And in order to obtain chips from Qualcomm, one needs a license.”

Lee (Samsung) Dep. 215:21–216:7



“[W]e believe that the millions of dollars that we pay to [Qualcomm] royalty could be better—could be invested to perhaps develop our own technological advances.”

Madderom (Motorola) Dep. 217:20–218:5, 218:18-219:3

Qualcomm's No License-No Chips Policy is Unique

Unique to Qualcomm in the Industry

Qualcomm is the only component supplier not to include IP in the price of the component.

Evans Tr. 554:15-555:4; 555:12-14; 556:18-21

Qualcomm is the only supplier to condition use or sale on existence of IP license.

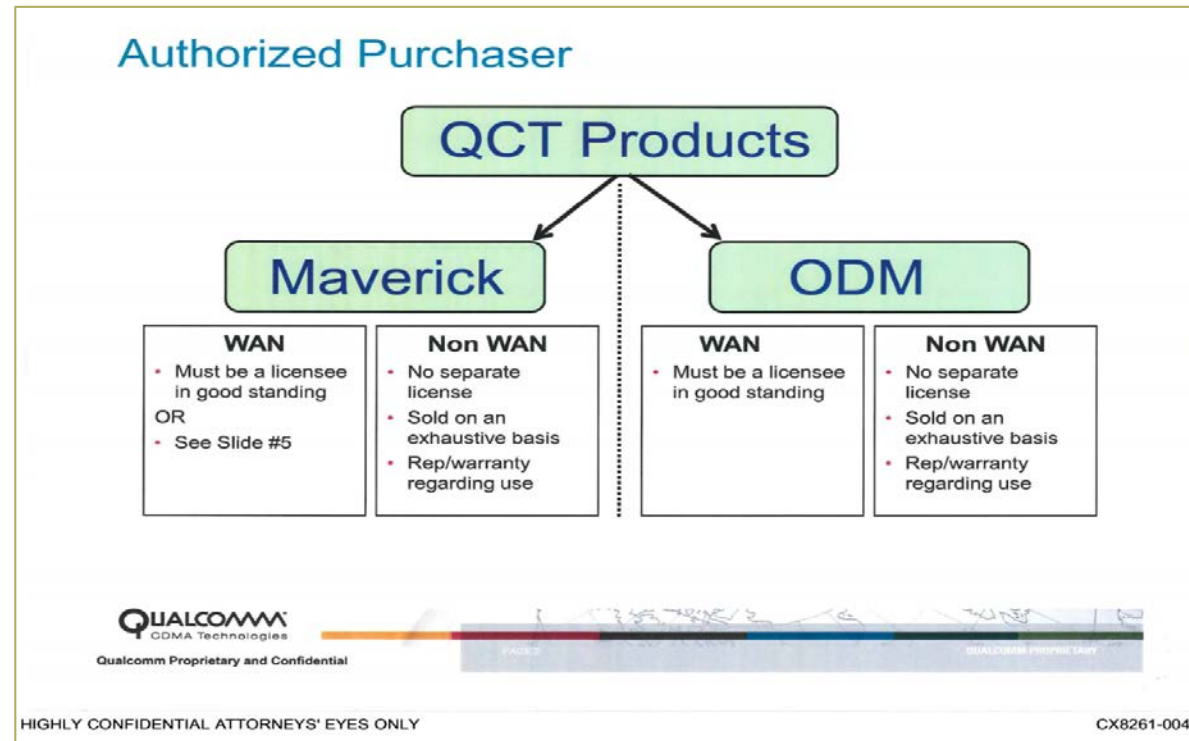
Blevins Tr. 677:12-678:10

See *also* Samsung (Lee Dep. 132:23-25, 133:1-2); Huawei (Yu Dep. 121:6-11, 20-25); Blackberry (Grubbs Dep. 267:16-20; 268:15-269:5); Qualcomm (S. Altman Tr. 178:1-4); Motorola (Madderom Dep. at 163:04-10); LG (Cho Tr. 924:3-6); Donaldson Tr. 968:1-12.

Unique within Qualcomm

“Q. Do device manufacturers purchasing Wi-Fi components from Qualcomm have to first take a license to Qualcomm's Wi-Fi standard essential patents?
A. No.”

Gonell Tr. 1483:18-21



CX8261-004; see also Blevins Tr. 688:2-15

Qualcomm's "Negotiated" Rates Do Not Prove Fairness

Fabian Gonell (Qualcomm - QTL)

Q. And you believe that **Qualcomm's cellular standard essential patent portfolio has been valued based on the license agreements** that Qualcomm has; right?

A. **That's fair, yeah.**

Gonell Tr. 1481:11-14; see also Tr. 1480:18-1481:10 (no other valuations conducted)

Fabian Gonell (Qualcomm - QTL)

Q. You testified that simply knowing an agreement was reached would not necessarily mean that an agreement was FRAND; right?

A. **The mere fact of an agreement does not necessarily mean an agreement is FRAND.**

...

Q. So I take it that you would agree that a negotiated agreement may not be fair if enough economic pressure is brought to bear; correct?

A. It is possible that a negotiated agreement is not fair. That's possible. **You have to look at the circumstances and the terms.**

Rates Non-Negotiable

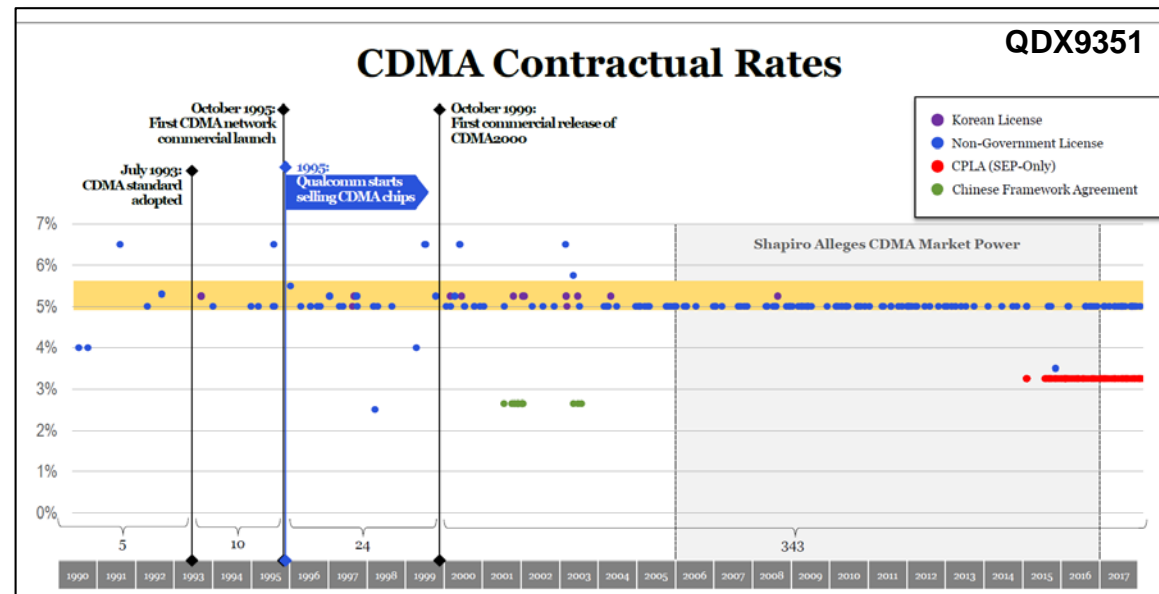
Q: So to be clear: Huawei was asking Qualcomm to reduce its rates. Qualcomm was responding: We can't reduce our rates, but we'll consider other ways to exchange value. Is that correct?

A: I think that's generally right.
Reifschneider Dep. 126:20-24

From: Reifschneider, Eric [mailto:EReifschneider@deweyleboeuf.com]
Sent: 20 February 2012 02:03
To: Pearl, Jonathan
Cc: Derek Aberle; Hill, Lee
Subject: RE: Draft license agreement

“[W]e do not understand why Sony Mobile would expect to pay anything other than a 5% royalty under the new agreement”

CX7650-002



“Qualcomm's strategy [is] to **keep the headline rate the same** and negotiate on other, largely on other terms and conditions... to keep the effect of the real royalties paid by OEM's from falling and they've used chip leverage and other tactics to do that.”

Shapiro Tr. 2048:25-2049:7

See also CX5211 (“We explained why we have little flexibility with the royalty rates, given the established value of our patent portfolio”); Yu Dep. 149:2-25 (Qualcomm did not show any flexibility on royalty rates); Blumberg Dep. 158:21-159:14 (“we were unable to get any movement on pricing [the running royalty rate]”); Donaldson Tr. 969:19-970:10 (consistency of Qualcomm’s rates “a real anomaly”); CX6983.

Qualcomm Uses Incentive Funds with No License-No Chips to Keep Royalties High



Carrots and Sticks

Carrots	Sticks
Waive 4G upfront license fee	Open Audit findings
Offer Strategic Fund	\$1.4M late fees as of 2/20/13
Offer MDF	Product hold on Chip shipments QMC has 378.5K MSMs on backlog scheduled to ship by 4/9/13.
Offer Chip rebate	Send breach letter for failure to provide records for audit.
Use Qualcomm marketing relationships to assist Lenovo internationally particularly for Windows Mobile 8.0.	QCT incentives owed \$11.2M
Select Lenovo as the lead customer on the MSM8226 (QMC decision).	CX5210-011

Eric Reifschneider (Qualcomm)

Q. ...Do you understand what “Carrot and Sticks” means in this context?
 A. Seems to me the carrots were a series of things we could possibly offer to them that would be some benefit to them, potentially. And sticks were, sort of, things we could sort of – I don’t know how to put it. I don’t know how I would describe the terms sticks....
 Q. The goal of all of these suggestions would be to get Lenovo to sign a 4G license. Is that how you understand this slide?
 A. Presumably, as I look at the overall slide deck presentation.

Reifschneider Dep. 137:4-138:11

Ira Blumberg (Lenovo)

Q. In many of the discussions that you’ve had over the years with Qualcomm, Qualcomm has proposed strategic funds to help close the gap between Lenovo on the one hand and Qualcomm on the other with respect to royalty rate?
 A. Yes. In – in general, the way that Christian, who is typically the negotiator on the financial terms, would discuss it with Qualcomm was effectively a total cost of using Qualcomm: Cost of chips, cost of royalty, and so. And so Qualcomm was basically saying, “Well, we can address the total cost through this strategic fund by doing things that will make it effectively less expensive.”

Blumberg Dep. 217:19-218:10

See also: Reifschneider Dep. 152:11-153:9, 159:23-160:1 (Lenovo); 126:20-127:7 (Huawei); 177:20-178:13; CX3264; CX3283; CX3255; Grubbs Dep. 223:21-224:17, 232:7-233:11, 248:9-15, 256:24-257:19, 257:25-258:15; Wyatt Tr. 438:9-21; CX2079-007; Blumberg Dep. 178:05-179:18; CX7556-002, -005 (“The amounts under these agreements will be recorded in a QTL business unit.”); Aberle Tr. 278:11-278:20, 280:20-281:18; 281:19-282:12; CX5179-001; CX7556 at -005; CX5425; Shapiro Tr. 1248:18-24.

Incentive Fund Examples



CX7556-004; Aberle Tr. 278:11-20, 279:5-9; 280:20-281:18; CX7105-003 ("main exchange items"); Reifschneider Dep. 177:20-178:13; CX5179



CX3264; CX3283; CX3255; Grubbs Dep. 223:21-224:17, 232:7-233:11, 248:9-15, 256:24-257:19, 257:25-258:15.



CX5363; Williams Tr. 878:14-879:5; CX5391; CX5425



HUAWEI

CX5211-003; Reifschneider Dep. 125:04-126:07; 126:20-127:27; 132:4-18; Yu Dep. 218:2-7, 18-21.

SONY

CX5376-001; Mollenkopf Tr. 757:21-758:5; JX0063; JX0072; Aberle Tr. 254:17-255:10; 256:2-24

ZTE

P. Jacobs Dep. 233:11-21; 233:22-234:13; CX6658

See also CX6491-003; CX6500; CX6516; CX7571; Reifschneider Dep. at 178:14-22; 180:25-181:8; 188:4-189:20; Wyatt Tr. 438:9-15; Rogers Tr. 2003:4-2004:16 (Chinese OEMs, e.g., Oppo, Yulong, Xiaomi)

Qualcomm Uses Incentive Funds to Evade FRAND & Regulatory Scrutiny

CX6594-031

How a co-marketing program can support QTL business model

Objectives

Benefits to Qualcomm

Key constraints

Improve perception of QTL model through re-investment of part of the royalties in direct OEM support

Provide access to better reporting and directly incentivize compliance among non-compliant OEMs

- of future NDRC action of legal threat
- towards naturally Ms
- creation for high end, QCT chipsets
- globally competitive QCT chipsets
- QTL
 - Increases size of China profit pool
- QCT
 - Reduces perceived TCO disadvantage vs. competitors due to QTL royalties

- Must comply with FRAND and any other relevant regulations – *not an obstacle if program is kept separate from licensing agreement*
- Cannot be directly limited to QCT customers – *although is expected to support demand generation for QCT chipsets*
- "Self-funding" – *Aim to "pay for itself" through improved compliance and/or reduced risk of Government action*

Must comply with FRAND and any other relevant regulations – *not an obstacle if program is kept separate from licensing agreement*

CX6594-033

High-level design of a co-marketing program structure

	Description	Recommendation	Evaluation
Structure	Is this program part of the existing licensing agreement, or separate?	Separate co-marketing agreement (i.e. "Strategic Growth Support Fund")	By carving out from agreement, gives much more flexibility around FRAND compliance
Eligibility	Who is eligible to participate in the program?	Qualifying Chinese OEMs	Focus efforts where compliance is an issue Clear signal of investing in China Likely to be Tier 1.5 Incentivizes compliance

By carving out from agreement, gives much more flexibility around FRAND compliance

Benefits to Qualcomm

QTL

- Reduces likelihood of future NDRC action
- Increases credibility of legal threat

Co-branding	Do we use Qualcomm branding?	4G / LTE related branding (NOT Qualcomm)	confusion with QCT QTL has no branding assets
Marketing support	Do we provide support beyond funding?	Market knowledge and execution support – potentially via partnership with leading global/regional distributors (e.g. Brightstar)	Greater influence over messaging, etc Requires additional resources

Qualcomm Attributed Incentive Funds to QTL

QUALCOMM Incorporated
Accounting Memo

To: Corporate Accounting File
Prepared by: Angela Williamson
Date: May 17, 2007
Subject: LG Electronics Inc. (LGE) Agreements

Although (a) LGE is also a direct customer of QCT, and (b) the indemnity amounts and the Strategic and Digital Media Fund amounts are calculated as a percentage of the Chipset Purchase Price, **QTL is deemed to be the primary beneficiary of the elements of these agreements**, including the expected royalty stream resulting from QC's first OFDM subscriber device license with a major handset manufacturer. **Therefore, the amounts under these agreements will be recorded in the QTL business unit.**

CX7556-005

Qualcomm Incorporated
Accounting Memo

To: Corporate Accounting File
Prepared by: Roel Dill
Date: June 22, 2016
Subject: Yulong Q3FY16 Revenues
Business Unit: QTL

The SFA was entered into by QCTAP but was **negotiated primarily by QTL in connection with the execution of the CPLA and the transactions will therefore ultimately be reflected in the QTL segment**.

Samsung 2018: A Package Deal

- **\$\$\$** under the Settlement Agreement (JX0122-054) (Sec. 2.1 Payment by Qualcomm to Samsung)
- **\$\$\$** from Qualcomm to Samsung under SULA Amendment (JX0122-008) (Sec. 2.1 2018 Amendment Fee)
- **\$\$\$** for “technical collaboration” (JX0122-081) (Sec. 2.1 QUALCOMM's Payment)
- **\$\$\$** rebates for using Qualcomm modem chips under the Strategic Relationship Agreement (JX0122-037) (Sec. 2. Rebates: (a) Monthly Rebate; (b) Premium Tier Core Chipsets...(i) Galaxy S10 and Note10)
- **?** Proposed Foundry Arrangement (Rogers Tr. 2007:2-2008:6)

Qualcomm Refused Rivals' Licensing Requests in Breach of SSO Commitments

To: Aberle, Derek[daberle@qualcomm.com]; Gonell, Fabian[fgonell@qualcomm.com]; Hermele, Dan[dhermele@qualcomm.com]
Cc: Reifschneider, Eric[ereif@qualcomm.com]; Lupin, Lou[lilupin@qualcomm.com]
From: Marv Blecker
Sent: Wed 6/6/2012 7:30:11 PM
Importance: Normal
Subject: Re: Two further contributions - Intel and Cisco
Received: Wed 6/6/2012 7:30:10 PM

we were also asked for licenses by Intel and TI at a minimum, probably others (e.g., Samsung, Mediatek) as well, and we refused to enter into anything other than a non-exhaustive covenant (or covenant to sue last in the case of SS and MT).

12 Q. HAS QUALCOMM EVER GRANTED AN EXHAUSTIVE LICENSE FOR
13 CELLULAR SEPS TO A MODEM CHIP SUPPLIER?
14 A. WE'VE NEVER ENTERED INTO AN AGREEMENT, TO MY KNOWLEDGE,
15 FOR CELLULAR SEPS THAT WAS INTENDED TO BE EXHAUSTIVE.

Gonell Tr. 1432:12-15

To: Aberle, Derek[daberle@qualcomm.com]; Gonell, Fabian[fgonell@qualcomm.com]; Hermele, Dan[dhermele@qualcomm.com]
Cc: Reifschneider, Eric[ereif@qualcomm.com]; Lupin, Lou[lilupin@qualcomm.com]
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At 09:14 AM 6/6/2012, Aberle, Derek wrote:
I seem to recall that Broadcom asked us for a license offer as we claimed were essential. I could be wrong but I think we entered into a non-exhaustive covenant instead of a license even though they wanted a license.

Sent from my HTC One™ X, an AT&T 4G LTE smartphone
----- Reply message -----
From: "Gonell, Fabian" <fgonell@qualcomm.com>
To: "Hermele, Dan" <dhermele@qualcomm.com>; "Blecker, Marv" <marv@qualcomm.com>; "Reifschneider, Eric" <ereif@qualcomm.com>; "Aberle, Derek" <daberle@qualcomm.com>
Subject: Re: Two further contributions - Intel and Cisco
Date: Wed, Jun 6, 2012 8:51 AM

REDACTED FOR

From: Hermele, Dan
Sent: Wednesday, June 06, 2012 8:42 AM
To: Gonell, Fabian; Blecker, Marv
Cc: Reifschneider, Eric; Aberle, Derek; Lupin, Lou
Subject: Re: Two further contributions - Intel and Cisco

REDACTED FOR

HIGHLY CONFIDENTIAL - ATTORNEY EYES ONLY

CX8285-001

CX8285

See also Blecker Dep. 306:25-307:2, 314:23-25; 315:2-315:12, 315:14-18; 318:18-319:4, 319:24-320:4; S. Altman Tr. 238:3-238:7; Aberle Tr. 313:13-313:24; Yu Dep. 131:18-132:24, 133:12-21 (Huawei was refused a chip-level license); CX1009 (Qualcomm's proposal to Huawei); Lee Dep. 222:11-13, 222:14; 227:7-9; CX2639A; Hong Dep. 81:14-21 (refusal to license Samsung). CX6786R Tr. 33:11-20. (Reifschneider: "But, you know, to tell somebody no, we're sorry, we won't enter any kind of agreement with you at all, and, yes, in theory, you know, you have to just live with this risk that we could sue you for patent infringement, it's not a great, you know, position to be in in terms of defending yourself against, you know, claims that you've broken those promises to make the technology available. You know, we also have a big chipset business, you know, of our own, and we're also interested in protecting that, right?")

License Refusals Supported Elevated Royalties from No License-No Chips

- Qualcomm refuses to license rivals to support its supra-FRAND royalties
 - Reifschneider: “[W]e will concentrate our licensing program and our licensing negotiations on the guys who make the cell phones ... because **that's where the real money is...**” CX6786R at Tr. 32.
 - Gonell: Licensing “**the handset is humongously more lucrative....**” CX6786R at Tr. 71.
- Qualcomm knows it cannot extract a supra-FRAND royalty from chip makers
 - Blecker: “[I]t would be hard to convince a court that that was a fair royalty also.” CX6786R at Tr. 73.

13 Q. Do you see in the center of the email in the
14 red text where it appears that you write, "Keep in mind
15 that we absolutely cannot give a chip supplier a full
16 license to our IP with pass-through rights to its
17 customers as that would have the potential of severely
18 impacting our subscriber licensing program"?

19 A. Yes, I see that.

Blecker Dep. 307:13-19

See also: “If you sell to a non-licensee, . . . the problem that arises is that by virtue of having sold them the chip, they now have arguments that arise under patent law and principles of patent exhaustion that they don't have to pay you any more for the fair value of the I.P. because you've sold them the chip, even though they haven't paid anything for that yet.” Gonell Tr. 1420:3-12; CX6786R Tr. 108:17-25 (Blecker: “Well, my suggestion -- it's just a minor suggestion -- but each third-party CDMA ASIC supplier infringes -- all of Qualcomm U.S. standard essential patents -- and may infringe other Qualcomm U.S. patents.”).

Restrictions on VIA, MTK Extended Reach of No License-No Chips

For example, MediaTek sales were restricted to Qualcomm licensees.

under this Section 8.1.2 with respect to such Potential Licensee. MediaTek, on behalf of its Authorized Affiliates and itself, agrees and acknowledges that if any Potential Licensee refuses to enter into any discussion with QUALCOMM to negotiate such agreement or, notwithstanding QUALCOMM's reasonable effort to negotiate in good faith for the six (6) month-period, such Potential Licensee and QUALCOMM fail to enter into such agreement, (i) MediaTek and/or its Authorized Affiliates shall immediately cease Selling MediaTek CDMA ASICs to such Potential Licensee, (ii) QUALCOMM shall not be in breach of this Section 8.1.2, and (iii) QUALCOMM shall have all remedies available under the law to enforce its rights under QUALCOMM's patents against such Potential Licensee if such Potential Licensee's products infringe any of QUALCOMM's patents.

JX0050-046; see also Moynihan Tr. 333:24-334:12, 334:21-335:6, 350:12-22

A “good number of [Qualcomm ASIC] agreements do require that the ASIC supplier sell to a Qualcomm licensee, only sell to a Qualcomm licensee.” Blecker, CX6786R Tr. 47:6-8; see also Hong Dep. 216:3-216:24 (Reifschneider sought unusual terms intended to slow Samsung’s modem chip development).

Qualcomm threatened Lenovo with loss of MediaTek supply. Blumberg Dep. 176:13-177:7; CX2079. See also Davis Dep. 79:19-80:7; CX6552 (Actual Via cut-off).

Qualcomm Proactively Sought Chip Level Licenses



Motorola License Amendment

Executive Summary

- Pass-through rights from Motorola have significant value for QCOM
 - Help QCT gain market share through greater IP protection for its customers
 - Royalties shared by Motorola to QCOM (~\$100M)
 - Significantly reduces market misperceptions regarding royalty stacking and further substantiates the value of QCOM's business model
 - Improves QCOM's position against any future challenges to our standard CDMA and WCDMA terms
 - Improved position for OFDMA license from Motorola and others in the future
- Reduced likelihood of litigation with Motorola

CX7042-005

Summary of Third Party IP Rights Benefiting Customers of QUALCOMM's MSMs and Software

QUALCOMM has agreements with a substantial number of unaffiliated third parties that permit us to grant you broad rights under certain of their patents (the "3rd Party Patents") for your Subscriber Units that incorporate our MSM ASIC and associated software (the "Eligible Subscriber Units"). You will not have to pay any royalties to the third parties for use of the 3rd Party Patents in your Eligible Subscriber Units. This document summarizes the rights that QUALCOMM is entitled to provide to you under the 3rd Party Patents for Eligible Subscriber Units when you meet certain conditions set forth below.

List Includes: Alcatel, Siemens AG, Ericsson, InterDigital, Motorola, Nokia, Philips, Samsung, LG... and more. (CX0507-049)

Q Did having pass-through rights from other patent holders help QCT gain market share?

A Yeah. I said earlier, to the extent we had the ability to do that and other chip competitors didn't do that, then we were in a stronger competitive position. No question.

P. Jacobs Dep. 171:19-24

QUALCOMM Business Model

01/06/05, Version 1

"QUALCOMM has proactively acquired licenses from its licensees and others to manufacture and sell components"

JX0036-011

Rivals were Deterred by Qualcomm's Refusal to License

Dragonfly Modem Chip JV Failed Without a License from Qualcomm

22 Q. And is this the source of the obligation
23 you discussed earlier for NTT DoCoMo to negotiate
24 with Qualcomm for a license that would apply to the
25 joint ventures activities?

173:01 A. It appears to refer to an obligation to

02 obtain some kind of a license from Qualcomm.

03 Q. Okay. And I believe you testified earlier
04 that NTT DoCoMo was unable to obtain such a license;
05 is that correct?

06 A. Yes.

07 Q. And as you mentioned, that that failure to
08 obtain a license was one of the reasons the joint
09 venture did not proceed; is that correct, as well?

10 A. Yes. Hong Dep. 172:22-173:10

See also Hong Dep. 139:23-140:5, 169:8-16, 172:15-173:10, 176:3-16; CX2628, Sect. 3.1(a)

Customers Desired Modem Chips that were Licensed by Qualcomm

12 A. IN GENERAL, DURING THAT PERIOD, 2008 INTO 2009, AND EVEN
13 INTO 2009, THE KIND OF PREVAILING MESSAGE FROM ALL OF THE
14 CUSTOMERS I ENGAGED WITH WAS THAT THEY EXPECTED US TO HAVE A
15 LICENSE AGREEMENT WITH QUALCOMM BEFORE THEY WOULD CONSIDER
16 PURCHASING 3G CHIPSETS FROM MEDIATEK.

17 Q. AND HOW DID THIS IMPACT THE TIMING OF SALES OF 6268?

18 A. WELL, AT THE TIME WE DIDN'T HAVE A LICENSE AGREEMENT WITH
19 QUALCOMM. WE DIDN'T HAVE ANY AGREEMENT WITH QUALCOMM. SO IT
20 SORT OF STALLED THE PROGRESS I WOULD SAY.

21 Q. DID MEDIATEK DO ANYTHING TO ALLEVIATE THESE CUSTOMER
22 CONCERNS?

23 A. I DON'T -- I PERSONALLY DIDN'T, BUT I KNOW SOMEBODY IN THE
24 COMPANY REACHED OUT AT SOME POINT TO SEEK A LICENSE AGREEMENT
25 FROM QUALCOMM.

Moynihan Tr. 336:12-25

See also Moynihan Tr. 336:7-20, 337:1-10, 341:23-342:11, 388:15-339:13); Moynihan Tr. 337:1-10 (license negotiations with Qualcomm proceeded slowly), 338:4-339:3, 354:4-13 (MediaTek's 3G modem late to market due to license negotiation delay); Hong Dep. 162:1-14 (risks identified by Samsung via indemnification if it sold chips without a license), 162:15-24 (IP indemnification a key issue in chip sales negotiations).

Qualcomm's Anticompetitive Apple Contracts

- **2007 Marketing Incentive Agreement** (JX0040)
 - Royalty rebates in exchange for “kill[ing]” WiMAX. Williams Tr. 873:6-23; Blevins Tr. 714:14-715:1.
- **2011 Transition Agreement** (JX0057-001)
 - CDMA and iPad royalty rebates in exchange for UMTS business and exclusivity. Williams Tr. 876:12-20, 879:6-8.
- **2013 Amended Transition Agreement and BCPA** (JX0057; JX0078)
 - Extension of rebates in exchange for continuing exclusivity and FRAND gag clause. Williams Tr. 886:16-23, 887:13-19; Blevins Tr. 733:22-734:4.

Objectives:

Apple (Williams Tr. 871:7-12, 875:2-19):

- Relief from exorbitant Qualcomm royalties under Contract Manufacturers' licenses
- Prevent injunction (2007)
- Supply of must-have chips (2011, 2013)

Qualcomm:

- Strategic benefits for chip business, including exclusivity (CX5360, CX5348, CX0617)
- Prevent IP fight (CX5527-027)



Outcome:

- *Apple disclaims WiMAX* (Williams Tr. 873:7-24)
- *Apple exclusively uses Qualcomm modem chips in new models, 2011-Spring 2016* (Blevins Tr. 733:18-21; Williams Tr. 888:13-18)
- *Two-year delay in Apple bringing up Intel as a second supplier.* (Evans Tr. 570:23-572:5)
- *Apple refrains from challenging Qualcomm's licensing model, 2007-2016* (Williams Tr. 889:4-13; Blevins Tr. 711:3-17 (discussing CX0534))

Qualcomm Leveraged its Royalty Rates to Extract Chip Exclusivity

Qualcomm repeatedly obtained chip exclusivity in exchange for royalty relief.

Paul Jacobs, 2011

Offered Apple expanded iPad rebates “as part of a larger business relationship between the companies, including Apple’s use of Qualcomm chips in its iPhones and devices like the iPad.”

CX0599; Williams Tr. 876:12-24

Steve Mollenkopf, 2011

“We are unwilling to have the [\$7.50] Marketing Agreement apply to CDMA iPhones as part of this deal, but we are willing to provide a separate, significant sum of money as part of the chip deal.”

CX5363-017; Williams Tr. 878:14-879:1

Derek Aberle, 2014 (per Blevins)

“Derek’s argument is that today’s actual royalty is \$10.00 and the chipset price is Cristiano’s business. Only if we bring to them some ‘additional value’ (e.g. **chipset exclusivity**), would he consider a reduction of the \$10.00”

CX0856; Blevins Tr. 703:1-25

Apple viewed Qualcomm chip supply as “**hopelessly entangled**” with licensing, and considered its rebates from Qualcomm to be partial relief from Qualcomm’s high royalties.

CX0578; Blevins Tr. 701:4-702:15, 705:4-706:7, 711:3-17, 714:11-715:2, 733:22-734:4.

Qualcomm Bought Exclusivity to Weaken Competitors

Qualcomm Saw Competitive Threat ...



... and Pursued Exclusivity

2011

- “There are significant strategic benefits as it is unlikely that there will be enough standalone modem volume to sustain a viable competitor without [Apple].” CX5348; Mollenkopf Tr. 775:4-10.
- “thinking a lot about how hard we should push to **de-risk this account** in an environment [of likely competitive threats]. . . .” JX0055-006 (Mollenkopf).
- Absent exclusivity, Apple might use a competitor (like IFX and Samsung) and make the rival “more competitive in the market.” CX5357.

2013

Qualcomm considered the competitive threat of Intel (starting in an iPad) in negotiating the 2013 agreements. CX5739; Mollenkopf Tr. 788:11-17, 797:7-14.

- “Why not try to maximize profit instead of keeping 100% share. That last bit of share is expensive.” CX5378-002; Mollenkopf Tr. 787:24-789:8.
- “Economically, our best outcome is that they second SKU.... Strategically, we are better off keeping them on our stuff....” CX5381-001; Mollenkopf Tr. 787:24-789:8.
- “[G]oal of design-ins and exclusivity.” CX5360-003.
- Number 1 Qualcomm “Ask” in return for rebate funds was “**exclusivity.**” CX5360-010.

Incentives to “[b]uy exclusivity as done in the original deal” CX8276 (Amon Tr. 493:1-11)

QCT/Customer ASK's

• QCT ASKS FOR MDF FUND

- Exclusivity
- Joint Marketing
- WLAN/BT 2013

CX5360-010

See also Williams Tr. 879:6-881:22 (Qualcomm, not Apple, sought exclusivity in 2011), 886:16-887:2 (Qualcomm, not Apple, sought exclusivity in 2013); Mollenkopf Tr. 843:25-844:3 (“[I]t was either me or Jeff. I can’t remember which one”); CX 5425-002 (Qualcomm accounting memo) (A “primary benefit” is the “exclusivity provision.”); CX0526-002-003 (Mollenkopf to Williams: Clawback provisions “are important to us”).

Exclusive Deals Foreclosed Rivals and Protected Royalties

2011 and 2013 deals provided a “very strong disincentive” to use Intel . . . (Blevins Tr. 689:10-24)

- Apple pursued an Intel engineering engagement for a 2014 iPad, to prepare for an iPhone. JX0074; CX0853 (“In net, there is no way that we would forego otherwise earned incentive in favor of launching iPad only in ‘15”); Blevins Tr. 689:25-690:10, 691:16-692:17, 699:18-700:16; see also *id.* 670:18-671:5 (Apple was interested in having multiple modem chip suppliers).
- 2013 Agreements caused Apple to abandon Intel for 2014 and 2015. Blevins Tr. 689:10-24; see also Williams Tr. 888:4-12 (“prohibitively expensive to work with someone else”); CX0531; CX0853; Blevins Tr. 692:24-693:20, 694:24-696:23, 699:18-700:16; Williams Tr. 888:10-12; Evans Tr. 571:15-572:13, 569:17-571:8 (Intel was technically acceptable).

slowed Intel’s development . . .

Aicha Evans:

- If Intel won the Apple business for 2014 models it would have been a stronger competitor two years earlier. Evans Tr. 579:7-11, 597:8-14.
- Substantial benefits to working with Apple. CX1599; Evans Tr. 569:3-16, 573:12-580:1 (“engineering support,” “experience and exposure,” “halo effect,” “better presence in the standards . . . [and] with operators”).

Cristiano Amon:

- Q: if Intel had won [a]n Apple socket two years previously, they would have had a commercial track record on LTE; right?
- A: They would have had a commercial track record and scale.” Amon Tr. 546:15-18.

and protected Qualcomm royalties from an Apple challenge

- Chip power = royalty leverage: A second supplier would have enhanced Apple’s royalty negotiating leverage. CX0534-002; Blevins Tr. 711:3-17; CX7910-001; CX5381-001.
- Gag clause: As part of the 2013 “package deal” with Apple, Qualcomm also required that Apple agree not to challenge Qualcomm’s royalty rates. JX0078-005-006, -007 (BCPA Sec. 7, 10); Williams Tr. 887:13-888:3

From: Mollenkopf, Steven
To: Lederer, Jim
CC: Amon, Cristiano; Renduchintala, Murthy; Mehta, Sanjay; Mollenkopf, Steven
Sent: 3/2/2013 9:09:32 PM
Subject: Re: maverick deals are done

I understand it but the scenario is really that there would have been a license fight as well and a push for alternative source.

CX7910-001

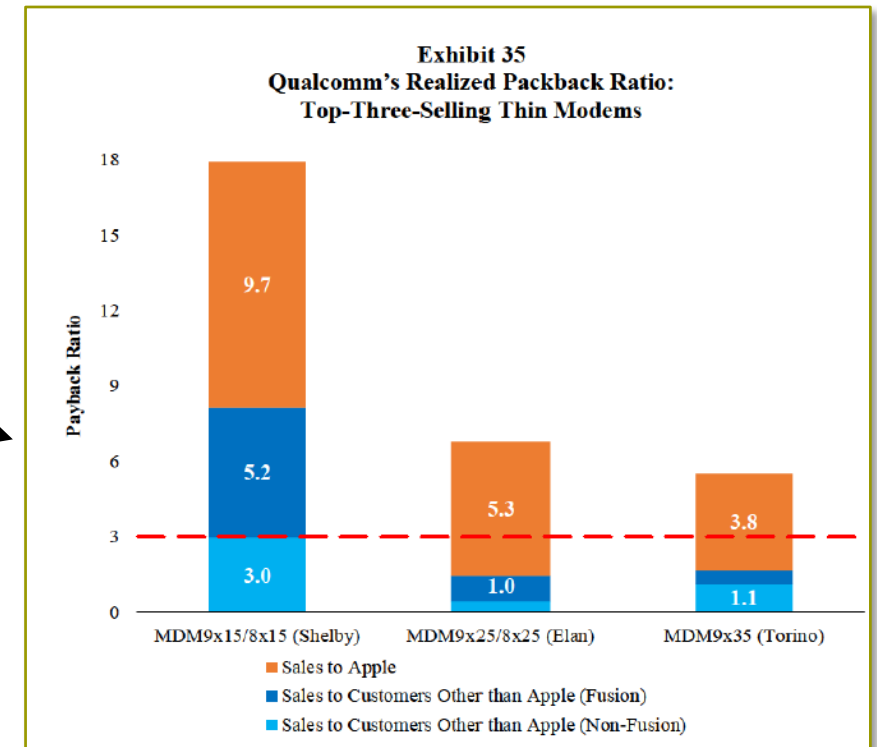
Apple Exclusivity Unjustified

- Qualcomm thin modem R&D is spread across product lines, and waterfalls into lower tiers. Thompson Tr. 1385:8-20.
 - Most Intel R&D spend for Apple modems re-used for other customers. Evans Tr. 586:6-21.
- “Payback ratios” show exclusivity not needed

- Qualcomm’s before-the-fact approval of the MDM9x25 predicted more non-handset sales than handset (Apple) sales. CX6334-024; Thompson Tr. 1385:8-20; Chipty Tr. 1771:20-1773:16.
- Thin modems have a high payback ratio. CX6334-021 (ratio of 6.5 for thin modems exceeds SOC (“MSM”) ratios of 2.2 and 4.1).
- Dr. Chipty’s after-the-fact payback ratios show exclusivity not needed to hit targets for MDM9x25 (Elan) or MDM9x35 (Torino). Chipty Tr. 1752:4-1753:22.

- Rebate payments to Apple cannot justify exclusivity
 - Makes no economic sense to make large payment to Apple to justify relationship-specific R&D investments.
 - Payments accrued only as Apple purchased chips and/or were subject to volume thresholds: if Apple hadn’t bought chips, no rebates. JX0057-002-003, 008; Williams Tr. 915:15-916:1.

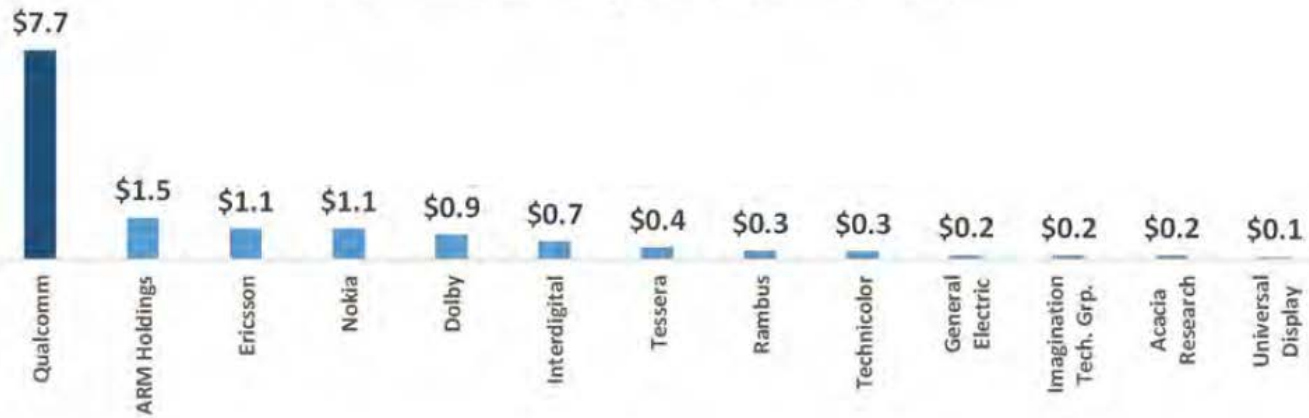
- Intel supplies Apple with no exclusivity or volume commitments. Evans Tr. 586:22-24; Williams Tr. 889:21-25.



Chipty Rep. Ex. 35, p. 167

Qualcomm's Practices Inflated Royalties

FY16 Annual Licensing Revenue (USD in billions)



CX7122-026

REASONABLE V. QCOMM. RATE

Redacted

Expert Report of Michael J. Lasinski, May 24, 2018, Appendix C, Schedules 1.1 and 24.1-24.5.

CDX0202-015; Lasinski Tr. 1036:1-1037:5

Michael Lasinski (FTC Expert)

Q. And do you have an opinion as to whether Qualcomm's licensing rates are consistent with its FRAND obligations?

A. Yes. In my opinion, they're far too high to be consistent with their FRAND obligations.

Lasinski Tr. 1011:9-12

No License-No Chips Enables Qualcomm's Unfair, Unreasonable Royalties

“Qualcomm was charging us more than everyone else put together.”

Jeff Williams (Apple), Tr. 888:24-25.

“There's no other agreement that BlackBerry has that . . . is not FRAND.”

John Grubbs (BlackBerry), Dep. 187:17-20, 234:5-7

“This structure of high royalties is only possible because Qualcomm has a monopoly position in the chipset market and does not supply chips to manufacturers without licenses to Qualcomm essential patents, giving manufacturers no choice but to accept.”

CX2642A-003 (Samsung)

“Q. Why did you sign . . . the CDMA license agreement, if you had concerns about the high . . . level of the rate? A. . . . Because we had no choice.”

Nanfen Yu (Huawei), Dep. 143:13-16

See *a/so* Blumberg (Lenovo), Dep. 148:25-149 (“Based on the negotiations I’ve had with companies like Nokia, Ericsson, InterDigital, and other significant patent holders, Qualcomm’s rate are substantially higher.”), 150:13-19, 271:23-272:4 (Lenovo agreed to higher rates than it otherwise would have because of chip supply threat); Lee (Samsung), Dep. 144:6-8 (“[W]e believed that the existing royalty rate was excessively high[.]”); Grubbs (BlackBerry), Dep. 234:22-235:15, 280:18-281:02; Yu (Huawei) Dep. 180:11-20, 185:5-186:4 (1/4/19 Trial Day 1 & 1/7/19 Trial Day 2); Donaldson Tr. 967:8-25; 968:18-969:4.

Qualcomm Fails to Justify Its Industry-Dominating Royalty Revenues



CX7122-026

Lorenzo Casaccia

Q. And you're not offering any opinion about the proper method of valuing a standard essential patent portfolio; correct?

A. Correct.

Casaccia Tr. 1651:7-15

Durga Malladi

Q. And it's not part of your job to determine a financial value of the Qualcomm intellectual property that has been contributed a standard; right?

A. That's correct.

...

Q. If you could take a look at your deposition transcript, Dr. Malladi, Page 402, Lines 9 through 15. So you were asked, "Do you know what makes one patent more valuable than another?" And your testimony at your deposition was, "No." Do you see that?

A. Yeah, I see that.

Malladi Tr. 1336:2-5, 16-22

Jeff Andrews

Q. And you're not ascribing a dollar value to those patents. Is that correct?

A. Yes.

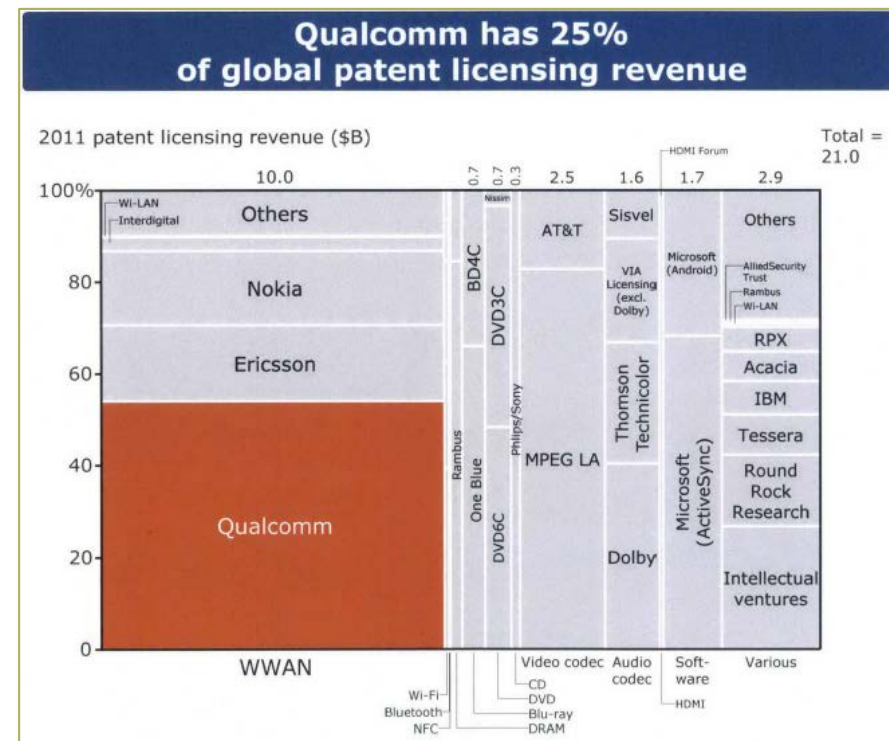
Q. You're not offering any opinion about what a reasonable royalty would be for those patents?

A. No, sir.

Q. And you're also not offering an opinion about what a reasonable royalty would be for Qualcomm's portfolio as a whole; is that correct?

A. That's correct.

Andrews Tr. 1615:15-24

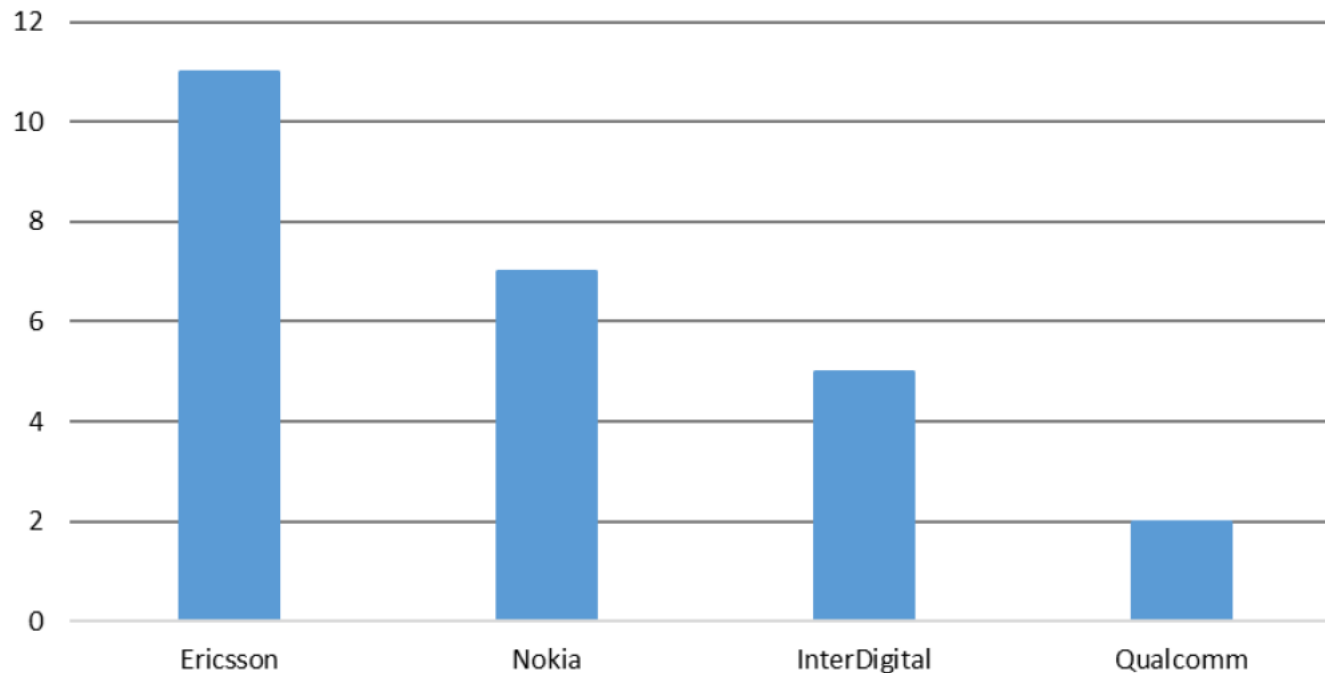


QX0121-009 (Bain)

Donaldson: Qualcomm Avoids Litigation Risks

Richard Donaldson (FTC Expert)

Judicial Proceedings Enforcing Cellular Patents



Sources: (1) ERC-CID_SPEC5-00001 (2) FTC-NOKIA-0000035 (3) IDCC-FTCQCOM-0000002 (4) Q2017MDL1_03125483

CX0101-001

In the “negotiations that Qualcomm had where they supplied chips that were commercially necessary for the licensee to continue in business, for those situations, Qualcomm essentially took the risk of litigation off the table. It was not an alternative to the licensee.”

The removal of the alternative “put the licensee at a severe disadvantage . . . as the testimony reflects, he’s basically in the position, I agree to the license or basically go out of business.”

This “results in a disproportionately high royalty rate.”

Donaldson Tr. 967:11-25

See also Wise Tr. 109:6-8; 109:25-110:4; Blumberg (Lenovo) Dep. 188:19-189:18, 229:15-230:7

Qualcomm's Royalty Surcharge Harms Rivals

Carl Shapiro (FTC Expert)

Qualcomm Royalty Surcharge Reduces the Gains from Trade When an OEM Purchases from a Rival

- Impose royalty surcharge of \$10
- Gains from trade fall to \$15
- If gains from trade are split equally
 - Buyer surplus: \$7.50
 - Rival margin: \$7.50
 - Price of rival modem chip falls to 12.50
 - All-in price goes up to \$32.50
- Rival harmed by \$5
- OEM's costs rise by \$5
- OEM/final consumers harmed by \$5



“The effect of the royalty surcharge is to reduce the gains from trade on this transaction, cause the OEM's cost to go up, cause the rival to get a lower margin, and some of this cost increase will be passed on to final consumers.”

Shapiro Tr. 1137:3-6

“When Qualcomm collects this royalty surcharge on a transaction where an OEM purchases a chip from a rival, that's -- that raises the cost there, burdens that transaction, and weakens the rival as a competitor....

[T]he impact is not at all the same on a transaction between Qualcomm and the OEM because, yes, sure, the OEM pays the royalty surcharge to Qualcomm, but That's – Qualcomm's the recipient of that. It's in one pocket and out the other. So the gains from trade between the OEM and Qualcomm are not reduced in the same way by the surcharge. It's not going out to third parties.”

Shapiro Tr. 2057:25-2058:12

Fabian Gonell's Testimony Corroborates Prof. Shapiro's Analysis

Status Quo

“Qualcomm charges for its chip X plus Y...

When [an OEM is] considering somebody else's chip, okay, they have to pay X, the price of the chip, okay, and if they have a license agreement, they **have to pay [Qualcomm's royalty] Y** and it's the same and everything is fine.”

Gonell Tr. 1422:7-10



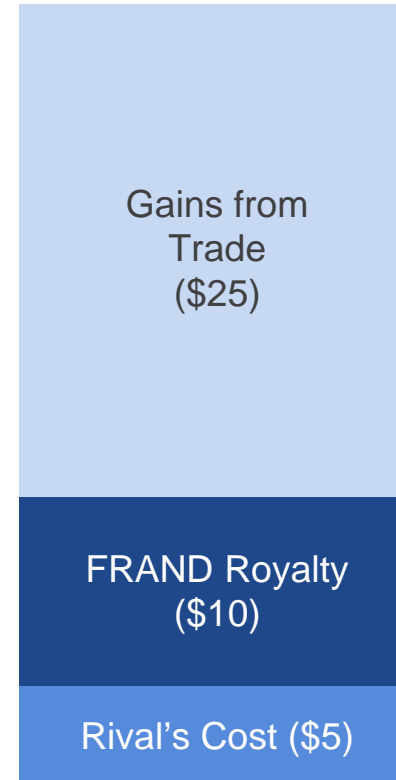
CDX0201-007

Judicial Determination

“The court or arbitrator is not going to give us more than Y. The court, **if we win everything**, then they're going to give us Y.”

“[T]he Qualcomm offering is X plus , and the competing offering is X plus Y later, **or maybe less than Y later**, then all other things being equal, the other offering is going to be more attractive. **So Qualcomm's going to have to adjust its price . . .**”

Gonell Tr. 1423:2-14



CDX0201-006

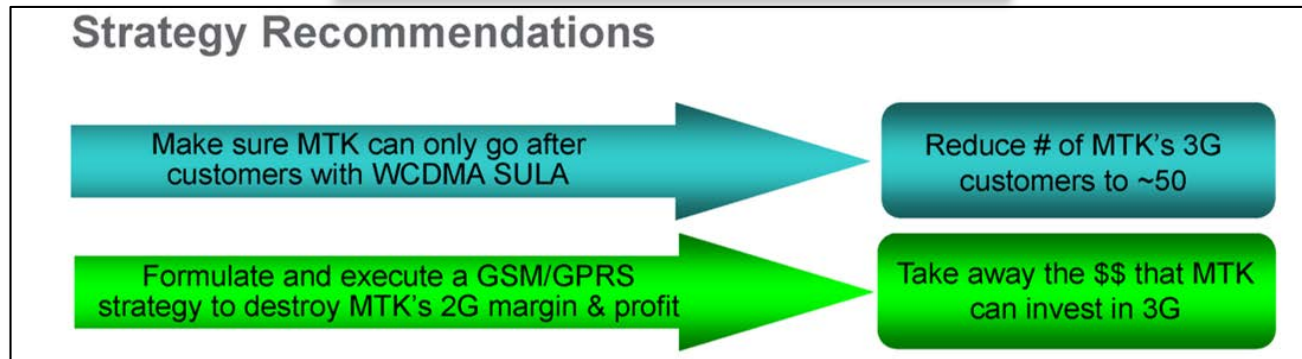
Rivals Feel the Effects of Qualcomm's Conduct

Aicha Evans (Intel)

“So now there is this chip price, and on top of it there's this royalty price. For them, Qualcomm, it doesn't really matter because both monies are the all-in price and go to them and they can shift the price from chipset to royalty, **which then undercuts me as the competitor.**”

Evans (Intel) Tr. 558:15-19;
see also Evans Tr. 557:4-25

QCT Strategy Recommendation



CX5809-041

Finbarr Moynihan (MediaTek)

A. Well, we all know that, you know, **Qualcomm has this licensing business** that sort of tends to **give them a large financial transaction between the same company that they're supplying chips to.** You know, we sometimes feel, in the competition environment, it's a little bit like competing with one hand tied behind your back. There are sort of other financial considerations, other incentives that **when the OEM looks at the picture, the total cost of ownership is something that's very hard for us to compete with** sometimes.

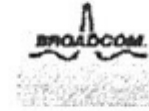
Moynihan (MediaTek) Tr. 341:23-342:11

Scott McGregor (Broadcom)

“Basically, Broadcom has a challenge making money on chips. **If our competitor makes money on the patent IP and uses it to subsidize the development of the chips or the pricing of the chips.** So that's something **that's very dangerous** to – from a business model point of view to Broadcom.”

McGregor (Broadcom) Dep. 239:18-25

Rivals Have Suffered



CX8292-024; see also Moynihan Tr. 324:5-12 (listing modem chip supplier exits from market)

Aicha Evans (Intel)

Q. “So has Intel’s supply of modem chips to Apple been profitable up to this point?”

A. No.”

Evans (Intel) Tr. 586:25-588:16

Finbarr Moynihan (MediaTek)

MediaTek paused development of its premium tier chip program.

Moynihan (MediaTek) Tr. 374:25-375:6

Scott McGregor (Broadcom)

Q. “Why did Broadcom shut down that business?”

A. Broadcom shut down that business because we believed it was not economically viable...The revenue ... was not sufficient to cover the R&D and other costs required to create those chips.”

McGregor (Broadcom) Dep. 12:5-12:17

See also CX3551-004; Moynihan Tr. 377:4-20

Avoiding Exhaustion Is Not a Procompetitive Justification

“We don’t collect license fees or royalty at – for chip sets...And the reasons for that include the risk under patent exhaustion law as it has evolved and as it currently standards, that if we attempted to license and collect royalties on chip sets it would undermine the ability to collect license fees and royalties for the products they go into...and we don’t want to take that risk.”

CX6786-R, 15:7-15

Q: Why does Qualcomm practice ‘no license, no chip’? Is this just a way to pressure companies into signing license agreements?

- We have legitimate reasons for this practice and the recent Lexmark decision on exhaustion validates that this practice is necessary

CX8195-007

See *also*: Gonell Tr. 1420:3-12 (“If you sell to a non-licensee, . . . the problem that arises is that by virtue of having sold them the chip, they now have arguments that arise under patent law and principles of patent exhaustion that they don’t have to pay you any more for the fair value of the I.P. because you’ve sold them the chip, even though they haven’t paid anything for that yet.”); Donaldson Tr. 974:14-975:18.

Qualcomm's R&D in Context

- Attractive financial returns – The combined model has an efficient capital structure and drives strong cash flow from Qualcomm's technology investments, enabling Qualcomm to invest in profitable growth opportunities alongside its significant stockholder capital return program
 - In fiscal 2015, we returned over 300% percent of free cash flow to our stockholders. This included share repurchases of \$11.2 billion dollars, which reduced our share count by 9%, and dividends of \$2.9 billion dollars.
 - For the last three fiscal years, our cumulative capital return was 140% of FCF, exceeding that of each of our proxy and semiconductor peers.

Project Phoenix Q&A Prep –
December 2015 (CX7251-004)

	R&D	Stock Buybacks	Dividends	Combined Buybacks + Dividends
2015	\$5.5 billion	\$11.245 billion	\$2.880 billion	\$14.125 billion
2016	\$5.2 billion	\$3.922 billion	\$2.990 billion	\$6.912 billion
2017	\$5.5 billion	\$1.342 billion	\$3.252 billion	\$4.594 billion

Figures from CX7257 Qualcomm 2017 10-K at -0044 (R&D) ,-052 (Buybacks & Dividends)

Avoiding Multi-Level Licensing Does Not Justify Qualcomm's Policies

Qualcomm would be able to continue downstream licensing if that were actually more efficient. See Shapiro Tr. 1126:19-1127:8 (“There’s nothing preventing that from happening. But in that situation... [w]hen Qualcomm is negotiating with an OEM, they would not be able to threaten withholding chips as part of that licensing negotiation.”).

Richard Donaldson (FTC Expert)

Q. Mr. Donaldson, what is your opinion on the viability of chip level licensing in the cellular industry?

A. Well, I think it is a viable approach. I think it's very comparable to the type of program that TI and I think other companies also have, and I think it could have been used, or could be used.

Q. And when TI used this type of licensing program, how did you account for any exhaustion concerns that were raised?

A. They were not a real problem. ... we had very carefully segregated our chip patents from system level patents, and I think reasonable people were able to sit down and work out the issues and we were able to work out all of those issues to both parties' satisfaction.

Donaldson Tr. 976:7-23

Ericsson has granted Qualcomm a license at the component level (Petersson Dep. 26:5-26:10), **but generally licenses everyone else at the device level** (see JX0120-004). See also JX0120-019 (explaining that Ericsson granted Qualcomm a chip-level license “[n]otwithstanding the various complications with chipset level licensing”).

See also Petersson Dep. at 164:20-166:17 (“The licensing of patent in that separate [patent] agreement however **only covered the use of the product that was acquired from us,**” not competitors’ chips); see also JX0120-22.

Despite Regulatory Scrutiny, Conduct Ongoing

NDRC settlement - Worst penalties were avoided – e.g. caps on non-SEP royalties, more aggressive rate cuts, forced selling of chips to non-licensees, etc. – primarily because of what CalTech offered NDRC (agreement with SMIC (Semiconductor Manufacturing International Corporation) to collaborate on production technology + Voluntarily contributing ~\$150M to Chinese R&D investment fund)

CX3755-004; see also CX6594-014



Fair Trade Commission



FAIR TRADE COMMISSION

See CX7257-097-099

Steve Mollenkopf (Qualcomm)

Q. "And you would agree, sir, that it is Qualcomm's policy not to sell chips to companies that are unlicensed or not complying with their licenses; correct?"

A. "We have that policy, yes."

Mollenkopf Tr. 842:25-843:3

Alex Rogers (Qualcomm)

"So we don't license at the component level..."

Rogers Tr. 1978:7

Qualcomm-Samsung Feb. 2018 agreements included multiple payments to Samsung

JX0122; Rogers Tr. 2008:10-2010:2

Risk of Recurrence

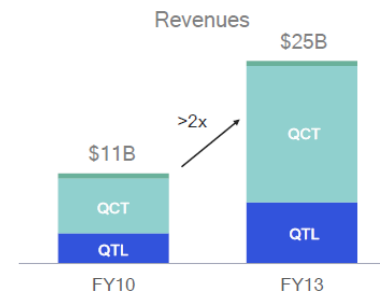
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Qualcomm January 2018 Stockholder Presentation

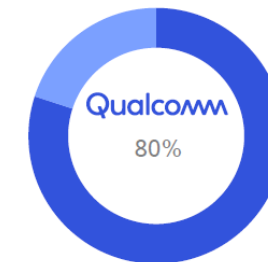
Technology transitions create significant returns for Qualcomm

3G to 4G transition drove significant revenues and earnings

During 3G to 4G transition, Qualcomm revenues more than doubled



Captured 80%+ share of units during first 3 years of technology transition from 3G to 4G



5G starting in 2019



(1) See footnotes at the end of the presentation.

Qualcomm stockholders poised to achieve substantial returns on 5G investment

Qualcomm January 2018 Letter to Stockholders

“Qualcomm is 12-24 months ahead of our merchant competitors in the transition to 5G.”

CX8198-004

David Wise (Qualcomm)

“The main point on 5G is that we are in a stronger position to extend QTL licensing model together than separate.”

CX5913-001

CX8197-020