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IN THE COMPETITION

Case No. : 1382/7/7/21

APPEAL
TRIBUNAL

Salisbury Square House
8 Salisbury Square
London EC4Y 8AP

Monday 6th October 2025 – Tuesday 4th November 2025

Before:

Mrs Justice Bacon

Derek Ridyard

Justin Turner KC

(Sitting as a Tribunal in England and Wales)

BETWEEN:

Consumers' Association

Class Representative

v

Qualcomm Incorporated

Defendant

A P P E A R A N C E S

PHILIP MOSER KC, ROB WILLIAMS KC, MICHAEL ARMITAGE, CIAR MCANDREW,
CHARLOTTE MCLEAN, DANIEL ALEXANDER KC and DAVID IVISON (Instructed by
Hausfeld & Co. LLP) on behalf of Consumers' Association

DANIEL JOWELL KC, NICHOLAS SAUNDERS KC, DAVID BAILEY, SOPHIE BIRD,
CHARLES WALL, ALEXANDRA BRECKENRIDGE (Instructed by Norton Rose Fulbright
LLP and Quinn Emanuel Urquhart & Sullivan LLP) on behalf of Qualcomm Incorporated

1
2 Monday, 20 October 2025
3 (10.30 am)
4 MR WILLIAMS: Madam, members of the Tribunal, Mr Noble is
5 here to give his evidence.
6 Could we please bring up {EAOE/17/1}.
7 THE CHAIR: Is he being re-sworn?
8 MR WILLIAMS: Well, that is perhaps a good point. I am
9 sorry, perhaps I will ---
10 THE CHAIR: I think he should start off by being sworn. He
11 should then go through --- I know that they were sworn
12 for the purpose of the hot-tub, but they should do it
13 now.
14 MR ROBIN NOBLE (sworn)
15 Examination-in-chief by MR WILLIAMS
16 MR WILLIAMS: Mr Noble, can you see the screen?
17 A. Yes.
18 Q. This is your seventh report in the proceedings, is it
19 not?
20 A. Correct, yes.
21 Q. Can we please turn to page 40 {EAOE/17/40}. Is that
22 your signature?
23 A. Yes, it is.
24 Q. Can we please bring up {POE/21/1}. This is your eighth
25 report?
26 A. Yes, correct.

1

1 Q. Can we please turn to page 106 {POE/21/106}. Is that
2 your signature again?
3 A. Yes, it is.
4 Q. {POE/23/1}. (Pause)
5 THE CHAIR: Are we having problems bringing up a document?
6 EPE OPERATOR: (Inaudible).
7 MR WILLIAMS: Here it is. This is your ninth report. If we
8 turn through to page 54 {POE/23/54}. Is that your
9 signature again?
10 A. Yes, it is.
11 Q. Then, last of all, {IRE/28}. This is your tenth report
12 and if we could turn through to page 7 {IRE/28/7}, your
13 signature again?
14 A. Yes, correct.
15 Q. Then, finally, {POE/24}. This is the joint statement
16 prepared by yourself and Dr Padilla and on to page 2
17 {POE/24/2}. Your signature is there?
18 A. Yes, correct.
19 Q. Does the content of these reports and the joint
20 statement, as contributed by you, represent your true
21 and complete professional opinion?
22 A. Yes, subject to the corrections that were highlighted,
23 I think, when we started the hot-tub.
24 MR WILLIAMS: Thank you. There will be some questions for
25 you.

2

1 Cross-examination by MR BAILEY
2 MR BAILEY: Good morning, Mr Noble. Good morning, members
3 of the Tribunal.
4 Can I just start by explaining the running order.
5 So I will start and ask you some questions about
6 dominance and then my learned friend Mr Jowell will ask
7 you some questions relating to abuse and the effects of
8 the conduct and then, lastly, Mr Saunders will address
9 you on leveraging.
10 THE CHAIR: Can I just clarify there is not going to be any
11 overlap between those issues? I do not want the same
12 questions or more or less the same questions being put
13 several times to Mr Noble.
14 MR BAILEY: No, Madam, we have absolutely sought to ensure
15 there will be no repetition.
16 THE CHAIR: So dominance, abuse and the leveraging analysis,
17 or the empirical analysis of Dr Padilla.
18 MR BAILEY: Yes, Madam, that is correct.
19 In terms of confidentiality, I will be starting in
20 open court for the first half and then I will need to
21 move into private session where I then group all of my
22 questions relating to confidential matters at that
23 point.
24 THE CHAIR: All right. You will finish by a little bit
25 before 1.00 so that there can be time for

3

1 re-examination, if necessary.
2 MR BAILEY: We will do our level best to do so.
3 THE CHAIR: Yes. We have half a day with each of the
4 witnesses.
5 MR BAILEY: Mr Noble, I am going to focus on the end of
6 market power in your LTE markets and the point at which
7 you think market power began in 5G. I am going to start
8 with Samsung and look at the market position
9 between 2016 and January 2018, when the 2018 amendment
10 to Samsung's licence was negotiated.
11 I would like to start, if may, with the data and
12 what it tells us. Can we go to {ORI/261.8/1}. While it
13 is being brought up, this is a spreadsheet of the
14 figures that underlie figure 7 in Dr Padilla's fourth
15 report. In your hard bundle, it is at tab 3. It sets
16 out the share of Samsung's purchases. I want to focus
17 on the period Q1-2016 to Q1-2018. It is {ORI/261.8/1}.
18 It is figure 7, so the other tab, please. Go down to
19 Q1-2016. Can you see, Mr Noble, that the figures there
20 in the second column show Samsung's purchases for
21 Qualcomm at 58% in Q1-2016? Do you see that?
22 A. Yes.
23 Q. Row 51. Thank you.
24 A. Yes.
25 Q. If we go down to see how it changes, to Q1-2018, do you

4

1 see that it has decreased to 26% in row 60?
 2 I apologise, row 59?
 3 A. Yes.
 4 Q. If we look then at the third column and see what
 5 happened in the same period to Samsung Exynos, if we go
 6 back to Q1—2016, please, so that is row 51, do you see
 7 it was 36% back in 2016?
 8 A. Yes.
 9 Q. Then the data we see that the share increases, does it
 10 not, in Q1—2018, to a share of 61%. Do you see that?
 11 A. Yes.
 12 Q. Given those shifts and share of supply to Samsung, you
 13 would accept presumably that Exynos and Qualcomm were
 14 effectively competing in supply of chipsets to Samsung
 15 between 2016 and 2018?
 16 A. Well, there certainly seems to have been a degree of
 17 switching by Samsung from one to the other.
 18 Q. Yes. The switching obviously would therefore imply that
 19 there was competition between Exynos and Qualcomm for
 20 the Samsung socket during that period?
 21 A. It certainly appears that for some sockets that Samsung
 22 felt comfortable that it could use Exynos, as opposed to
 23 Qualcomm, or any other supplier.
 24 Q. Yes. Although it is not just some sockets, is it,
 25 because we see it actually goes from 2016 Exynos had

5

1 36%, and it goes up to 61% in 2018 so it is quite
 2 a significant increase, is it not?
 3 A. Yes, it is a significant increase.
 4 Q. I am grateful.
 5 I am going to move to LTE—CDMA and I am going to go
 6 through, as you do in your markets, by type of chipset.
 7 So I am going to start with LTE—CDMA. Can we just
 8 recall, please, during the hot—tub, and in case you want
 9 to look at it, it is {Day7/170}, and I just tell you
 10 this is where Mr Ridyard asked you a question about
 11 whether prospective market power might work in reverse.
 12 So, in other words, where a firm thinks in six months to
 13 two years' time it will have its own supply and will be
 14 freed from any dependence on Qualcomm and you agreed
 15 with that idea, as a matter of concept. Do you recall
 16 that, sir? It is the bottom here. You will see that
 17 Mr Ridyard asked you, line 22, {Day7/170:22} and then
 18 over the page you will see your answer.
 19 A. Yes, I recall that exchange.
 20 Q. What I would like to do — let us give that
 21 a label: "the concept of market power weakness". Excuse
 22 me, "concept of prospective market weakness". I would
 23 like to look at how that concept applies in practice.
 24 So can we go, please, to {POF/649/6}. This is
 25 a document, a Samsung document, where we must not refer

6

1 to the information in grey and it is, as you can see
 2 from the title —
 3 A. Sorry, which hard copy is it?
 4 Q. So it is tab 47. It is a document that is setting out
 5 Samsung's plan for securing a CDMA solution. We can see
 6 from the top right—hand corner, March 2016 is the date
 7 of the document. Do you see that?
 8 A. Yes, I see that.
 9 Q. So can we go over the page, please {POF/649/7}. You
 10 will see there is a big grey box and I want to focus on
 11 the sentence above it. There is a bullet point that
 12 says:
 13 "So as respond to the expanding request for CDMA, S.
 14 LSI... "
 15 That is Samsung's own in—house business, is it
 16 not, for chipsets? You are nodding, sir, but —
 17 A. Sorry. Yes, it is.
 18 Q. Thank you.
 19 "So [Samsung] LSI also plans to gradually secure
 20 a CDMA solution (Two—Chip solution in 2017 [and then
 21 a] One—Chip in 2018)."
 22 So this document suggests, does it not, that Samsung
 23 was going to develop its own CDMA chipsets, either two
 24 chips in 2017 and then finally its own in 2018, do you
 25 agree with that?

7

1 A. I would agree that it appears to be planning to do so.
 2 Q. Yes. So if we just use the logic you discussed with
 3 Mr Ridyard, any CDMA market power that Qualcomm might
 4 have had would have been diminishing, would it not, as
 5 soon as Samsung believed that it would obtain a credible
 6 alternative source of CDMA chipsets in one to two years'
 7 time from the date of this document?
 8 A. Well, if we think about market power in the sense we use
 9 it in this case, there is — it depends which part of
 10 the allegation being made by the Class Representative we
 11 are looking at. There is two ways in which an OEM may
 12 wish to have chips. They may wish to have them now
 13 because it is currently making phones in its current
 14 supply chain and it may also wish to have them in the
 15 future because it is planning its next round of phones.
 16 So the concept of prospective market power and this new
 17 concept of I think what you called "market weakness" in
 18 a sense applied to that future need. They do not apply,
 19 obviously, to the current need because that is the
 20 chipsets you are currently using.
 21 Q. Just to clarify, and focusing on prospective market
 22 weakness, would you agree that insofar as this document
 23 is showing Samsung's plans, that in the foreseeable
 24 future any market power that Qualcomm would have would
 25 be declining from this date onwards in light of these

8

1 plans?
 2 A. It would certainly be the case that Qualcomm would have
 3 less market power once Samsung is comfortable that this
 4 sort of solution is going to work than, you know, prior
 5 to the position it would believe that such solution
 6 would work, yes. I would agree with that.
 7 Q. We can see that — I am not going to traverse the facts
 8 in the grey box with you, but that sets out some of the
 9 detail, but I would like to just ask you to note,
 10 because it is relevant for later on, the penultimate
 11 bullet in the grey box, please. Could you just note
 12 that. It says "pursuing to" and then just read the rest
 13 of that line and I am going to come back to that, if
 14 I may, later on. Do you see that, "pursuing to
 15 embed ..."?
 16 A. Yes, although I was not quite sure I understood the
 17 context of that, but perhaps that will become clear.
 18 Q. Do not worry. I will come back to it, I promise.
 19 Can we look at another document, please, at
 20 {POF/653/7}. I just want to see — you said in the
 21 hot—tub:
 22 "It depends what the OEM does with the knowledge
 23 about future supply."
 24 A. Sorry, which hard tab?
 25 (redacted — confidential information)

9

1 Q. Then do you recall, sir, in your ninth report, and we
 2 can turn it up if you wish, that you say there that
 3 Samsung had the ability to self—supply LTE—CDMA chipsets
 4 in 2018 and that is at paragraph 2.31, if you wish to
 5 look at it.
 6 A. In the ninth report?
 7 Q. Your ninth report {E/23/15}. I am just simply referring
 8 to what you, sir, acknowledge, in the last sentence
 9 there:
 10 "I note that Samsung was eventually able to
 11 self—supply LTE—CDMA."
 12 Do you see that?
 13 A. Yes, I do.
 14 Q. Do you recall that in the joint expert statement you
 15 accepted that Qualcomm no longer had significant market
 16 power for LTE—CDMA chipsets once it had the ability to
 17 self—supply those chipsets?
 18 A. Can we just —
 19 Q. Of course. It is paragraph 37.1 and it is {E/24/22}.
 20 What I would like to do is join the dots between what
 21 you say in your ninth report and what you say in the
 22 joint expert statement.
 23 So if you have the joint expert statement in front
 24 of you, you will see that you are talking about:
 25 "Qualcomm held particularly significant market power

10

1 with respect to ... "
 2 You go through various types of chips. You say in
 3 relation to LTE—CDMA, about six lines down, that it had
 4 it from 2009 until around 2017/18, and then in brackets
 5 you say "after which point" and we will focus on
 6 "Samsung was able to self—supply". Do you see that?
 7 A. Yes, I see that.
 8 Q. Just to join the dots, do you accept therefore that
 9 Qualcomm ceased to have particularly significant market
 10 power with respect to LTE—CDMA chips from 2018, the date
 11 at which you identify Samsung had the ability to
 12 self—supply?
 13 A. Can you ask the question again, sorry, so I can be
 14 clear.
 15 Q. Essentially what I am asking is when you say here that
 16 Qualcomm would no longer have significant market power
 17 with respect to LTE—CDMA chipsets from 2018, is that
 18 because that is the date when Samsung had the ability to
 19 self—supply?
 20 A. So it may still be the case that Qualcomm has some
 21 market power. I think what I am highlighting here is
 22 that by 2018, a number of factors have changed and you
 23 have the two largest OEMs having alternative sources for
 24 CDMA chipsets and so that does raise a question mark
 25 about how strong that conclusion of market power would

11

1 be. It is certainly weaker at that point than it was in
 2 earlier years.
 3 Q. Yes. Although you are not saying it raises a question
 4 mark in the statement. You are saying it had
 5 particularly significant market power with respect to
 6 CDMA—LTE chipsets and you say to around 2017/2018. What
 7 I was trying to do is to pin down precisely that the
 8 date at which it ceased to have particular significant
 9 market power for those chips was when Samsung had the
 10 ability to self—supply, which you identified in 2018.
 11 A. Well, I think it is quite difficult in this case to draw
 12 a bright—line and say on this specific date, you know,
 13 one day before it had market power and then one day
 14 after it did not. I think that is just inherently very
 15 difficult in this particular case and that is why I used
 16 this particular form of words here, which is Qualcomm —
 17 so I am talking in the positive here — held
 18 particularly significant market power and then I am
 19 talking about up until 2017/18.
 20 Q. You say "until around". I take your point about it is
 21 a question of degree and it changes over time and you
 22 give, to be fair, 2017/18. I was going to ask you about
 23 that, whether you accept that given Samsung knew, as we
 24 have seen, it was developing its own supply of CDMA
 25 chips, you would accept that, as you say, market power

12

1 is a question of degree so it was declining in 2017 in
 2 the run-up before Samsung started to self-supply
 3 in 2018?
 4 A. Well, if we go back to the distinction I drew between
 5 the future chips and the current chips, in a sense for
 6 the current chips it does not change until you can
 7 actually provide them to yourself and for the future
 8 chips, it changes at the point that you are sufficiently
 9 confident that you are going to be able to supply those
 10 chips to yourself.
 11 Q. But you cannot say with any confidence that Qualcomm
 12 would have significant market power from 2018, can you?
 13 A. It is certainly much less clear.
 14 Q. Yes, much less clear and therefore you cannot be
 15 confident?
 16 A. The confidence level goes down, yes.
 17 Q. I would like to turn to LTE-UMTS chipsets, please. You
 18 explain in the joint statement, at page 16, that Samsung
 19 had the ability to self-supply UMTS chipsets from 2010
 20 onwards. Do you see that, the first line of 29.1?
 21 A. Sorry, which --- 29 ---
 22 Q. On page 16. It is on the screen in front of you if that
 23 helps {E/24/16}.
 24 A. Sorry, yes, I have that.
 25 Q. Yes. So it is common ground between us that that is

13

1 when it had self-supply of UMTS, chipsets from 2010
 2 onwards; yes?
 3 A. I think the chronology is that they --- in 2010, they
 4 have engineering ability to do it, but I do not think
 5 they actually supply commercial volumes until 2011, but
 6 it is ---
 7 Q. Well, I was just going on what you said in the joint
 8 expert statement but if you --- let us have a look at the
 9 data again, shall we? The Class Representative has
 10 prepared a table on LTE chipsets which I think you are
 11 familiar with. That is at tab 5 of your bundle. For
 12 the Tribunal, it is {ORI/261.15/1}. This is a table
 13 that sets out shares and volumes for LTE chipsets
 14 supply. I would like to focus on the percentage row for
 15 shipments by Samsung to itself. So that is basically
 16 four rows up from the bottom. Can we look, please, at
 17 the position in 2016. Do you see that is 42% Samsung to
 18 itself?
 19 A. Yes.
 20 Q. Then we go ahead to 2018 and it has gone up to 66%, has
 21 it not?
 22 A. Yes.
 23 Q. If we look at the contrasting fortune for Qualcomm, in
 24 2016, it was 52%?
 25 A. Yes.

14

1 Q. It has fallen, has it not, to 26% in 2018?
 2 A. Yes.
 3 Q. So these figures suggest, do they not, that Samsung's
 4 in-house supply of LTE chipsets was a credible
 5 alternative for Samsung between 2016 and 2018?
 6 A. Well, a little like the exchange we had earlier, it
 7 certainly indicates that, as the slots have come up for,
 8 you know, the 2017 and 2018 handsets, that Samsung has
 9 felt comfortable to use its self-supply Exynos option,
 10 rather than Qualcomm or any other chipset for those.
 11 Q. Yes, so if you feel comfortable to use a Samsung chipset
 12 in a Samsung socket, you would obviously regard it as
 13 a credible alternative, would you not?
 14 A. For those specific handsets, yes.
 15 Q. Yes. I am only focusing on those particular years that
 16 are relevant.
 17 A. But there is still a question mark about the volumes
 18 that do not switch, because there is a question mark
 19 about, well, what inference do you draw from that? Do
 20 you draw, for example, the inference that those are the
 21 volumes that Samsung did not feel confident about
 22 switching away to either itself or to some other OEM?
 23 Q. Yes. I am focused on those where they did switch and
 24 specifically that that tells you, does it not --- it is
 25 a "signal", to use your wording from the hot-tub, that

15

1 Samsung regarded Exynos as a credible alternative for
 2 LTE-UMTS between 2016 and 2018, otherwise it would not
 3 have used it, would it?
 4 A. Certainly for the phones where they used it, yes, they
 5 do appear to have considered it a credible alternative,
 6 yes.
 7 Q. I would like to turn to 5G, if I may, and to pick this
 8 up, just to set the scene, can we look at your eighth
 9 report, please {E/21/69}. It is at paragraph 3.89.
 10 A. The eighth report?
 11 Q. Your eighth report, that is right.
 12 A. Which paragraph?
 13 Q. Paragraph 3.89. You say here:
 14 "Samsung and Apple are sophisticated customers..."
 15 I think we can agree about that:
 16 "... with well-informed expectations as to the
 17 relevant chipset markets, and were therefore able to
 18 anticipate that Qualcomm would occupy a strong position
 19 as a supplier of LTE chipsets and 5G chipsets."
 20 Do you recall that?
 21 A. Yes.
 22 Q. Do you recall that in the joint expert statement you say
 23 that Qualcomm had market power in 5G from around 2018?
 24 A. Yes.
 25 Q. For the tribunal's note, that is at paragraph 37.1 again

16

1 at {E/24/22}.

2 Now, you accept, do you not, Mr Noble, that the

3 parties' expectations about the strength of Qualcomm's

4 future position in 5G, those are factual matters, are

5 they not?

6 A. Yes.

7 Q. Yes. You say that in paragraph 27 of the joint expert

8 statement.

9 You nonetheless do discuss in your report some of

10 the evidence and discussions between Samsung and

11 Qualcomm. I would like to look at that, if I may. Can

12 we go, please, to page 67 in your eighth report?

13 A. Sorry, page 67?

14 Q. Page 67. I want to look at, in particular, the end of

15 paragraph 3.83 and then there is some confidential

16 marking in 3.84 {POE/21/67}. You are talking about

17 Samsung and 5G and you are saying here:

18 "[It] appears to have been constrained by a

19 continued reliance on Qualcomm's chipsets for flagship

20 devices in key geographies."

21 Then in 3.84 you elaborate upon that, citing various

22 bits of evidence. Do you see that?

23 A. Yes.

24 Q. Yes. You cite at the end of that, in footnote 215, four

25 documents. How did you identify those particular

17

1 documents?

2 A. How did I identify those?

3 Q. Yes, why those as opposed to any others?

4 A. I mean, we — I and the Oxera team reviewed a large

5 number of documents so I do not recall specifically how

6 we identified those four.

7 Q. So you looked at a large number of documents. Did you

8 review any other documents that discussed 5G in terms

9 of 2018 and 2019?

10 A. When we were preparing the report, I mean, there —

11 there were a lot of documents so I suspect the answer is

12 yes, but I do not recall precisely which ones.

13 Q. So how were you confident that these documents were

14 representative of the position in 5G in 2018/2019?

15 A. I mean, well, I was reviewing the documents to try and

16 identify suitable evidence to, you know, explore the

17 validity or not of the case that is being put forward.

18 Q. You do not provide a list of the documents you looked at

19 in your report, do you?

20 A. No.

21 Q. So we just do not know what you looked at and what you

22 did not look at?

23 A. We do not have a definitive list, that is certainly

24 true.

25 (redacted — confidential information)

18

1 Q. I would like to move forward in time, if we may, to look

2 at the time period relevant for the negotiation of the

3 GPLA, the Global Patent Licence Agreement between Apple

4 and Qualcomm?

5 A. Yes.

6 Q. That was negotiated between mid 2018 and 2019; yes?

7 A. Yes.

8 Q. Again, I would like to start, if I may, with LTE—CDMA

9 and just to see if we can join the dots. Can we go to

10 {E/24/22}, please, the joint expert statement. Do you

11 recall that you say here that Qualcomm held particularly

12 significant market power for LTE—CDMA chipsets until

13 Apple was able to source them from Intel? We looked at

14 this earlier but I want to focus on Apple now. Three

15 lines up from the bottom in parenthesis.

16 A. Yes, I see that.

17 Q. Yes. Do you recall that you have explained in your

18 eighth report that Apple sourced LTE—CDMA from Intel

19 from late 2017 onwards?

20 A. Yes.

21 Q. Yes. So to join the dots, you would accept, therefore,

22 that Qualcomm either was declining in significant market

23 power vis—à—vis Apple for LTE—CDMA chipsets from

24 late 2017 onwards?

25 A. Yes.

19

1 Q. Insofar as Apple prospectively anticipated that it would

2 be able to source LTE—CDMA from Intel, then applying the

3 concept we discussed earlier of prospective market

4 weakness, that would have applied even six months or

5 12 months before that; correct?

6 A. Yes.

7 Q. Yes. I would like to turn then to LTE—UMTS and can we

8 go back, please, to the chart we were looking at

9 earlier. This is the Class Representative's chart at

10 {ORI/261.15}. This is a spreadsheet. Mr Noble, for

11 your reference it is at table 5 — tab 5. I do

12 apologise. I want to focus now on Apple, if we may.

13 Are you with me?

14 A. Yes.

15 Q. Yes. I am grateful.

16 So if we look at the percentage changes. I want to

17 start in 2016. We will start with Qualcomm this time.

18 We can see that in 2016 it was shipping 84% of LTE chips

19 to Apple; yes?

20 A. Yes.

21 Q. That falls to 41% in 2018; yes?

22 A. Yes.

23 Q. The contrasting fortunes for Intel is that they were

24 supplying 16% of LTE to Apple in 2016?

25 A. Yes.

20

1 Q. They go up to 50% — 59%, even, in 2018; yes?
 2 A. Yes.
 3 Q. So would you agree with me that the shifts in share of
 4 supply to Apple are consistent with Apple exerting
 5 a greater degree of buyer power vis-à-vis Qualcomm
 6 between 2016 and 2018?
 7 A. Yes, it is certainly consistent with some degree of
 8 buyer power being exerted because they are shifting
 9 a significant volume of chipsets.
 10 Q. When Apple sources all of its LTE-UMTS chipsets from
 11 Intel for iPhones in 2018, that is a good signal, is it
 12 not, that Apple had a credible alternative to Qualcomm
 13 in 2018?
 14 A. For UMTS?
 15 Q. For LTE-UMTS, yes.
 16 A. Yes, it is a good signal.
 17 Q. The same point for 2019, when it sources all from Intel,
 18 LTE-UMTS, that is a good signal, is it not, that Apple
 19 had a credible alternative for that chipset in 2019?
 20 A. Yes.
 21 Q. Yes. I would like to turn then to 5G, please, and at
 22 this point, Madam, please could we sit in private and we
 23 need to use the strictest regime of 1782 external
 24 counsel only.
 25 THE CHAIR: So we are now moving into inner ring closed

21

1 session and I think that means some people will need to
 2 leave the room at this point.
 3 (11.17 am)
 4 (Redacted — confidential information)
 5 (2.00 pm)
 6 In Open Court
 7 MR JOWELL: Good afternoon, Dr Padilla. Dr Padilla, could
 8 I show you first your third report which is in the core
 9 bundle 33 —
 10 THE CHAIR: Mr Jowell, Dr Padilla needs to be sworn in.
 11 MR JOWELL: I made the same error. Yes, of course. You
 12 need to be sworn first.
 13 DR JORGE PADILLA (sworn)
 14 Examination—in-chief by MR JOWELL
 15 MR JOWELL: Core 33 {EAOE/12/1}. We see this is a copy of
 16 your third report?
 17 A. Sir, I do not have any copy with me.
 18 Q. You should see it on the screen, perhaps.
 19 A. Oh, there, yes. Excuse me.
 20 Q. We should, I think, have — Dr Padilla, I think should
 21 be provided with a copy of — it is coming. (Handed)
 22 A. Thank you.
 23 Q. If you go to page 4 of the report —
 24 A. Sorry, could you remind me of the tab?
 25 Q. It should be core 33. I think — is that the same —

22

1 oh, I imagine it will be the first tab. {EAOE/12/4}.
 2 The first tab, yes.
 3 A. I think what I have here is, I believe, is the bundle of
 4 documents to be for cross-examination, but not my
 5 reports.
 6 Q. Not the — you should have a clean expert report bundle.
 7 (Handed)
 8 A. Thank you. Now I am there.
 9 Q. You are there?
 10 A. Yes.
 11 Q. Go, please, to page 5 of the — of the first tab.
 12 A. Right.
 13 Q. Is that your signature?
 14 A. Correct.
 15 Q. If we could go, please, to tab 4 of the bundle before
 16 you, which is core 33, or {EAOE/22}. If we could go —
 17 is this your fourth expert report?
 18 A. Correct.
 19 Q. If we could go, please, to page 104 {EAOE/22/104}.
 20 A. Yes.
 21 Q. Is that your signature?
 22 A. Correct.
 23 Q. If we can go, please, to tab 7 in this bundle, core 38,
 24 {IRE/25}. Is this your fifth expert report?
 25 A. Sorry, which tab?

23

1 Q. Tab 7.
 2 A. Tab 7, yes, this is my fifth expert report.
 3 Q. If you could go, please, to page 8 {IRE/25/8}.
 4 A. Yes.
 5 Q. Is that your signature?
 6 A. Correct.
 7 Q. Finally, if we could go to the joint expert statement,
 8 which you will find in tab 6 of the bundle before you
 9 {POE/24}. If you could go, please, to page 3 of that
 10 {POE/24/3}, again, is that your signature?
 11 A. Correct.
 12 Q. Are those reports and that statement true to the best of
 13 your knowledge and belief?
 14 A. Yes.
 15 MR JOWELL: Thank you. Please wait there.
 16 Cross-examination by MR WILLIAMS
 17 MR WILLIAMS: Good afternoon, Dr Padilla.
 18 A. Good afternoon.
 19 Q. Madam, I am going to start in open and I hope to stay in
 20 open for most of the cross-examination. I am going to
 21 have to go into closed at the end, but I have grouped
 22 the questions.
 23 Dr Padilla, one of the disagreements between you and
 24 Mr Noble is whether chips that are compatible with
 25 different standards are in the same markets and this has

24

1 two aspects. One is whether a chip that supports an
 2 earlier generation of standard is a substitute for
 3 a chip that supports a later generation of standard.
 4 That is one issue. Do you agree?
 5 A. Correct.
 6 Q. Another is whether a chip that is only compatible with
 7 UMTS is a substitute for a chip that is compatible with
 8 CDMA 2000. That is a separate issue?
 9 A. Correct.
 10 Q. So what I am going to do at various points in the
 11 cross-examination, because we do not have a lot of time,
 12 is try and summarise what I think is the state of the
 13 evidence and put it to you to see if you are happy with
 14 the summary, rather than take to you every reference,
 15 and we will see how we go with that, if that is
 16 acceptable?
 17 So the first point is substitution between earlier
 18 and later generations. In his report Mr Noble cites
 19 evidence provided by OEMs to the European Commission,
 20 which he says supports his view that a 3G chip, for
 21 example, is not a substitute for a 4G chip. Do you
 22 recall that evidence?
 23 A. Yes.
 24 Q. Just to summarise the position: Mr Noble says this is
 25 the perspective of the customers who are buying the

25

1 chipsets and they say they are not substitutes, and you
 2 say that the opinions that are contained in those
 3 submissions come too late to illuminate the moment of
 4 transition and you say it is the moment of transition
 5 that matters. Is that a fair summary?
 6 A. I think that that is correct, but not — it does not
 7 reflect completely my position.
 8 Q. Right. Well, I am going to look at the — that question
 9 of the moment of transition. If you want to clarify
 10 your position as we go through, then you can do that.
 11 So can we bring up {POE/21/108}, please, which is
 12 appendix A3 to Mr Noble's report. The first of those is
 13 non-confidential. It is statements made by Apple. Do
 14 you see the second sentence, it says:
 15 "Consumers expect Apple's devices to include the
 16 most recent technologies."
 17 Do you agree that that comment is addressing the
 18 point of transition?
 19 A. So —
 20 Q. It is saying once there is a new standard consumers
 21 expect Apple to supply a device that complies with it?
 22 A. Sorry, I am a little bit lost. Apologies for this. You
 23 are asking me to look at what entry — what Apple wrote?
 24 Q. The Apple block and the second sentence — well, you can
 25 read the first sentence. I was stressing the second

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1 sentence which is:
 2 "Consumers expect Apple's devices to include the
 3 most recent technologies."
 4 So that is stressing the point of transition. It is
 5 saying once there is a new standard, consumers expect
 6 Apple to supply a device that complies with the new
 7 standard.
 8 A. I do not recall now who said that on behalf of Apple or
 9 whether this is Apple saying this, but whoever held that
 10 opinion, I am pretty sure that he held it in good faith.
 11 That does not tell me much about Apple's actual
 12 behaviour, because Apple's actual devices do not tend to
 13 include the most up-to-date technologies.
 14 Q. Yes, but this is not Apple looking back several years;
 15 this is Apple talking about the need to transition to
 16 a new standard when the standard comes in. That is what
 17 this is saying.
 18 A. Right, and all that I am saying is that, based on the
 19 facts, Apple chooses when to introduce the new
 20 technologies and I would not say never, but rarely is it
 21 a first-mover.
 22 Q. Can we please bring up {POF/842}, which is a Qualcomm
 23 internal presentation from March 2018, about a year in
 24 advance of 5G going live, and it relates to an unnamed
 25 customer. Now, I understand from paragraph 8 of your

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1 report that your role did not extend to the
 2 interpretation of documentary evidence like this. Does
 3 that mean you did not look at documents like this
 4 generally when you prepared the report?
 5 A. Correct. I looked at them. I mean, looking at
 6 documents and analysing documents is a completely
 7 different thing. So I looked at some documents,
 8 especially when the documents were introduced as
 9 evidence by Mr Noble, but I did not conduct an analysis
 10 of documents, meaning I did not look at or did not
 11 consider whether all the documents in the file were a
 12 representative sample of all the documents in the case.
 13 I did not look at all the documents. I did not
 14 pre-register the analysis that I wanted to do with
 15 documents and, no, you will not find statistics from me
 16 saying of all the documents that I looked at, these
 17 point in this direction and those point in the other
 18 direction.
 19 So I did not do an analysis of documents.
 20 Q. I am not going to ask you to comment on what the facts
 21 were. I just want to look at some documents in the
 22 context of the economics.
 23 A. Very good.
 24 Q. Can we look at page 5 of this, please {POF/842/5}. This
 25 sets out the benefits of 5G for user behaviour and you

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1 can see reference to latency, speeds, coverage and
 2 capacity and you see all of that on that slide; yes?
 3 A. I am looking at the slide now for first time, looking
 4 quickly. I am prepared to take it from here.
 5 I cannot — you know, no objection from me.
 6 Q. Then if we turn through to page 16 {POF/842/16}. This
 7 is outer ring confidential and I will not read it out.
 8 I would just like you to look at it. This is one of
 9 many documents that the Tribunal has seen which relate
 10 to Qualcomm's perception of its leadership position in
 11 5G and just while we are going through this, I wanted
 12 you to look at the text at the bottom right which deals
 13 with that and refers to a track record which is one of
 14 the issues you discussed with Mr Ridyard last week. Do
 15 you see that?
 16 A. Yes, I see that.
 17 Q. Now, the slide I want to move on is to 22 {POF/842/22}.
 18 Now, this refers to a survey of about 6,000 consumers.
 19 Now, this is not confidential. Have you seen this
 20 before?
 21 A. Let me just look at the source. Who has produced this
 22 survey? Qualcomm Technologies?
 23 Q. I think it is a survey that was produced for Qualcomm,
 24 I think, as I understand it.
 25 A. No, if I have seen it, I do not remember.

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1 Q. This is material, I think produced by Qualcomm, in
 2 relation to the transition from 4G to 5G from the
 3 consumer perspective. Do you see that it says that
 4 about half of all consumers are likely to shift to a 5G
 5 device once that is available? Do you see that on the
 6 right—hand side?
 7 A. That is when they say:
 8 "50% likely to purchase a phone that supports 5G
 9 when available"?
 10 Q. "When available"?
 11 A. Yes, I can see that.
 12 Q. Yes. In fact, if you look to the left of that, it says
 13 an even higher percentage expected to get a 5G phone
 14 when they next change phones. Do you see that as well?
 15 A. Correct.
 16 Q. So this is Qualcomm's own analysis of consumer demand
 17 when it was planning its strategy for 5G and Qualcomm's
 18 assessment was that there would be distinct consumer
 19 demand for 5G devices as soon as there was transition to
 20 the new standard. Do you agree with that?
 21 A. That is their assessment based on this report. This
 22 report was, sorry, published when?
 23 Q. It states from March 2018.
 24 A. But the report is September 2017?
 25 Q. That is right. Sorry, you are quite right. The survey

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1 goes back six months previously or so.
 2 A. So they were speculating what was going to happen
 3 in 2019 in 2017?
 4 Q. Well, they asked consumers what was their attitude to
 5 switching to 5G when 5G came — became available, it
 6 would appear, because that is what the consumer answers
 7 say.
 8 A. Right. I follow. That must have been — just to make
 9 sure I do not provide an answer that is incorrect.
 10 The September 2017 date is the date — presumably the
 11 survey was conducted before September 2017?
 12 Q. Presumably.
 13 A. Presumably. Right, look, I think that that may be the
 14 opinion of Qualcomm, but that is based on — well,
 15 first, its opinion, I do not know whether this was
 16 a scientific opinion or a marketing opinion, and — but,
 17 most importantly, the point is this was contingent
 18 valuation. "Contingent valuation" means you are asking
 19 people what are you going to do and I think that it is
 20 very well-known that people answer sometimes in a very
 21 imprecise way and that is why very often the answers to
 22 these hypotheticals differ very much from what happens
 23 in the actual.
 24 2017 is relatively early. I am not sure what
 25 information was provided to consumers as to what were

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1 the use cases for 5G and the only thing I will notice is
 2 that it seems that Apple was not particularly impressed
 3 by the survey because they decided to enter in 2020, as
 4 opposed to —
 5 Q. It is a Qualcomm survey. No one is suggesting that
 6 Apple was impressed by the survey.
 7 A. Right. Look, it is a piece of evidence, but as an
 8 economist I cannot give you assessment of how reliable
 9 it is.
 10 Q. So Mr Katouzian, who is the Qualcomm witness on the
 11 chipset side of the business, was asked about this. Can
 12 I show you what he said. It is {Day6/117:17}. This was
 13 in private session so I will not read anything out. It
 14 should come up on the screen for you.
 15 EPE OPERATOR: If it was in private, I do not have the
 16 transcript.
 17 MR WILLIAMS: That is a challenge.
 18 THE CHAIR: Yes. Unless you have it in hard copy.
 19 MR WILLIAMS: Well, can I put to Dr Padilla what
 20 Mr Katouzian said by way of headline conclusion, Madam?
 21 THE CHAIR: Let me just see if I have the transcript.
 22 A. I am prepared to accept whatever you tell me that he
 23 said.
 24 THE CHAIR: I just wanted to check that there is nothing
 25 sensitive in it. Day 6, the full transcript.

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1 MR WILLIAMS: Page 117, line 17, down to page 118, line 16.
 2 I was not going to go into the — we have it on Opus
 3 {POS/13/31}. Thank you to Mr Armitage.
 4 THE CHAIR: Right.
 5 MR WILLIAMS: Down at the bottom of page 17, sorry, 117, you
 6 can see just the last point on this document, page 22.
 7 That is the slide you have just seen. Then if we just
 8 go down onto page 118 —
 9 A. 118?
 10 Q. Yes. We can see —
 11 A. Which line?
 12 Q. Line 10 through to 16.
 13 THE CHAIR: Oh, yes, I do not think there is anything
 14 confidential there.
 15 MR WILLIAMS: No, exactly. So the — it is put to
 16 Mr Katouzian from the perspective of OEMs buying
 17 chipsets, 4G chips were not substitutes for 5G chips,
 18 were they?
 19 We have seen the perspective of Apple and other
 20 OEMs. That is the perspective of Mr Katouzian, who is
 21 in the business of selling the chips.
 22 This is what I want to put to you: in your report
 23 you draw an inference about whether there is
 24 substitution between chipsets across these different
 25 standards based on the pricing of handsets at one level

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1 removed, but we do not need to work this out indirectly,
 2 do we? We know what the parties buying the chips
 3 thought and we know what the parties selling the chips
 4 thought, which is that they are not substitutes?
 5 A. This is not the right analysis from the perspective of
 6 my report. Here what Mr Katouzian seems to be saying,
 7 and I agree with him, is that if you want to build a 5G
 8 phone, you need a 5G chipset, if you want to build a 4G
 9 phone, you need a 4G chipset and you cannot use a 4G
 10 chipset to build a 5G phone. That, I think, is
 11 uncontroversial and I fully agree with it.
 12 I think that the point is whether when Apple is
 13 negotiating with Qualcomm, for example, for the
 14 acquisition of 5G chipsets, if Qualcomm demands too
 15 much, whether Apple can say, "I am going to buy a few
 16 less 5G chipsets because I am going to be selling more
 17 4G chipsets. I am going to buy a few less CDMA chipsets
 18 because I am going to buy a few more UMTS chipsets" and
 19 this is because ultimately they are going to sell a
 20 different product mix of phones.
 21 Q. I understand that is the theory, but all you have done
 22 is look at the relative pricing of devices one level
 23 downstream, is it not? That is what you have looked at?
 24 A. But that is the only thing that I need to do because the
 25 level of — the prices of the devices downstream tell me

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1 that if a CDMA phone and a UMTS phone are selling for
 2 prices that are very similar, that is basically telling
 3 me, if we think about Apple, that Apple has exploited
 4 its relative market power on both dimensions to the
 5 point in which if there was a further increase in the
 6 price of a chipset and the CDMA using that chipset
 7 became less attractive, then there would be
 8 substitution.
 9 Q. I think you have moved on to the next topic now so that
 10 is where I am going to go now, which is substitution
 11 between UMTS and CDMA. I think the debate on this moved
 12 on in the hot-tub so, again, I am going to summarise
 13 where I think the debate moved.
 14 As I understand it, you agree with Mr Noble that if
 15 an OEM wants to launch a CDMA phone, as Apple did with
 16 Verizon in 2011, then it needs a CDMA chipset?
 17 A. Correct.
 18 Q. Your evidence, I think now anyway, is that this is not
 19 about whether CDMA and UMTS are substitutes at the point
 20 of launch; it is about the ability of OEMs to discipline
 21 Qualcomm, for example, by placing more emphasis on
 22 selling UMTS and CDMA, for example, by switching their
 23 marketing efforts. Is that a fair summary of where we
 24 got to?
 25 A. I think that this has been my evidence all the time.

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1 I have never claimed that you can produce a CDMA phone
 2 with a UMTS chipset or vice versa. I have always argued
 3 that in the context of the markets that I am
 4 considering, the OEM, because it is a multi-product
 5 company, can use the fact that it is purchasing multiple
 6 products to discipline each and every one of the inputs
 7 that are provided by the input supplier. In the same
 8 way that a supermarket, which is a multiple product
 9 company, can, you know, use, for example, the fact that
 10 it is buying a range of products from an input supplier
 11 to discipline the prices of those where the input
 12 supplier is relatively stronger.
 13 Q. Well, we will come back to some of that in a bit, but
 14 just so I am clear: your report talks about OEMs' demand
 15 for chips being derived from consumer demand, but I do
 16 not think you make the point, do you, that if Apple does
 17 not like Qualcomm's chip prices, it can steer customers
 18 away from CDMA towards UMTS? I do not think you put it
 19 in that is way in the report, do you?
 20 A. We — I explain it and the following — and this is the
 21 reason for the price overlap.
 22 Q. Sorry, I am sorry, Dr Padilla, we do not have very long
 23 this afternoon. Do you make that point in your report?
 24 A. It is. If you want, I can explain.
 25 Q. Well, maybe your counsel can take you to that in

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1 re—examination, but if you say it is in your report.
 2 I mean —
 3 THE CHAIR: But could you explain briefly what your response
 4 is, because you are being asked about it.
 5 A. Yes, this is a point that we started to debate in the
 6 hot—tub but we did not go very far and this has to do
 7 with the price overlap.
 8 So think about Apple has two phones, a CDMA phone
 9 and a UMTS phone and Apple is pricing both phones.
 10 Apple in the iOS space has some market power. I am not
 11 going to say whether it is dominant or not. I am going
 12 to say simply that it has some market power. So it is
 13 going to bring the prices up to a point in which it is,
 14 you know, in a sense taking them at a point in which
 15 there is going to be substitution, otherwise you could
 16 increase the price of one even further.
 17 Now, consider that there is an increase in the price
 18 of one of the chipsets, the CDMA chipset, for example.
 19 If there is some pass on and given the level of the
 20 prices that the downstream devices already have, then
 21 there is going to be substitution. You may wonder —
 22 you may worry are you arguing cellophane fallacy. Are
 23 you falling into the cellophane fallacy? The answer is
 24 no and the answer is because the cellophane fallacy
 25 occurs by reference to high prices of the product that

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1 you are testing, whether or not it belongs to a separate
 2 market, in this case the chipset.
 3 All that I am saying is that the prices at the
 4 downstream level are already high because there is
 5 exercise of market power and this is a general
 6 proposition that, you know, is much more difficult to
 7 hold market power as an input supplier than as somebody
 8 that controls directly the demand of consumers.
 9 THE CHAIR: Thank you.
 10 MR WILLIAMS: So I understand broadly what you say about
 11 that and what you said in the hot—tub, Dr Padilla, but
 12 I was asking you specifically whether this was discussed
 13 in your report and I did not understand your answer
 14 there to refer to any part of your report.
 15 A. So and I think it is explicit in the report when you
 16 look at the two principles that I used in order to
 17 assess demand—side substitution. I refer to geographic
 18 overlap and price overlap. Those are the two principles
 19 that I rely upon to talk precisely about demand—side
 20 substitution.
 21 Q. Do you refer anywhere in your report to OEMs using
 22 marketing efforts to steer customers from CDMA to UMTS?
 23 A. I do not recall. I think that this was something that
 24 we discussed in the context of the hot—tub in response
 25 to clarification questions.

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1 Q. If we could just tease out the way I think this would
 2 work, if I have understood it correctly. If Apple is
 3 unhappy with the pricing on, say, CDMA, it would use
 4 marketing efforts to steer customers towards UMTS
 5 network, say, AT&T, rather than Verizon. Is that the
 6 sort of thing you had in mind?
 7 A. So let me put it in my own words, if you do not mind.
 8 So what I am simply saying is that if Apple is not happy
 9 with the CDMA chipsets and given that it sells few CDMA
 10 phones and a lot of UMTS phones, it can move its demand,
 11 readapt its demand so that it demands fewer CDMA
 12 chipsets and more UMTS chipsets, sells fewer CDMA phones
 13 and sells more UMTS phones. I think that that is fairly
 14 rational. It is what everybody would do if it had that
 15 option and the report explains that the option exists
 16 because of — there are price overlaps which indicates
 17 substitution and there are geographic overlaps.
 18 Q. I think you said in the hot—tub there was no evidence to
 19 support this hypothesis, because it would be impossible
 20 to prove if the product mix between UMTS and CDMA is
 21 already in its optimal state. Do you remember saying
 22 that?
 23 A. No, but I am happy to take it as I said it and I think
 24 that that was correct. What I cannot prove is something
 25 that has not happened. So I think that we will need to

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1 accept that CDMA prices were really out of line with
 2 their competitive levels to see what would have been the
 3 response of Apple in terms of its optimal product
 4 portfolio and that is circular. So, no, I do not have
 5 the evidence to conduct that experiment.
 6 Q. There is another explanation for the absence of any
 7 evidence to support the hypothesis, is there not, which
 8 is that the hypothesis is wrong? That is another
 9 possible explanation for the lack of any evidence?
 10 A. Can you elaborate it? In which way?
 11 Q. The hypothesis that Apple — your explanation is the
 12 market is in an optimal state so we do not see Apple
 13 applying marketing efforts to shift customers from CDMA
 14 to UMTS. That is one reason why there might be no
 15 evidence. Another reason might be just that this
 16 mechanism does not happen, it just does not happen in
 17 practice because the products are not substitutes?
 18 A. No, I think that I explained myself incorrectly.
 19 What you observe — when I am saying that there is
 20 no evidence is because we do not have an experiment. We
 21 do not see — we cannot determine or we cannot establish
 22 a difference between a competitive CDMA chipset and what
 23 you claim is not a competitive CDMA chipset and what
 24 would have been the reactions of Apple. So we cannot
 25 test whether Apple would have reacted or if Apple would

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1 not have reacted. So what we have is not no evidence,
 2 it is that we do not have the experiment that would
 3 allow us to produce or to test whether my hypothesis is
 4 correct or is incorrect.
 5 Q. Well, we can come back to this a bit later in closed
 6 session.
 7 You just touched on the cellophane fallacy there and
 8 I want to be clear what you are saying about that. Can
 9 I just start with what the cellophane fallacy is. When
 10 you are doing a SSNIP test, you are looking at whether
 11 a hypothetical monopolist supply of the focal product
 12 can sustain a SSNIP without being defeated by customer
 13 switching. Am I right so far?
 14 A. With one — by and large correct, but let me just add
 15 one sentence: as need relative to the competitive price.
 16 Q. Yes. Well, exactly. So the concern is that if you are
 17 using the real-world prices charged by an allegedly
 18 dominant firm as the starting point, there is a risk
 19 that the prices are not at the competitive level? That
 20 is exactly the problem?
 21 A. That is correct.
 22 Q. The risk with the cellophane fallacy is that it may lead
 23 you to define overly broad markets when you should find
 24 that the products are in separate markets. Is that
 25 right?

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1 A. That is correct.
 2 Q. Mr Noble finds that UMTS and CDMA are in separate
 3 markets, does he not?
 4 A. That is correct.
 5 Q. So if there is a cellophane fallacy, it is not
 6 misleading Mr Noble into finding a broad market that
 7 includes CDMA and UMTS. There is no risk that his
 8 conclusion is vitiated by the cellophane fallacy, is
 9 there?
 10 A. Correct.
 11 Q. I mean you find a broader market, do you not? Your
 12 conclusion could be vitiated by the cellophane fallacy,
 13 I think?
 14 A. You cannot infer from the fact that I conclude a broader
 15 market that it is vitiated from the cellophane fallacy,
 16 but it would be more likely than the conclusion of
 17 Mr Noble.
 18 Q. Another point that came up in relation to this issue is
 19 the suggestion that CDMA and UMTS are substitutes
 20 because there is continuous variation in product mix.
 21 You said that with reference to your figure 3 and
 22 figure 4. Do you remember that?
 23 A. Correct.
 24 Q. So can we bring that up, please, at {EAOE/22/57}. The
 25 first — these were once confidential, but I understand

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1 they are not confidential any more because they are
 2 based on third-party data.

3 The first graph shows Apple's product mix. We see
 4 two spikes which I am told launch with — coincide with
 5 the launch of two CDMA-compatible iPhones. Is that
 6 something you have looked at?
 7 A. Can you point to exactly —
 8 Q. Sorry, do you see in the first — in figure 3, if we
 9 look at 3G CDMA at the top right?
 10 A. Right.
 11 Q. There is a little spike just after 2010 and there is
 12 a little spike towards 2012?
 13 A. Correct. That is my understanding at that point in time
 14 where they launch CDMA phones.
 15 Q. Right. So that — I mean a spike when there is a phone
 16 that is launched is not really a continuous variation in
 17 mix, is it?
 18 A. I am not sure what to tell you to tell you the truth.
 19 It is continuous in a mathematical sense, but
 20 I understand your point that there is a spike. At that
 21 point in time, there was a significant change, much more
 22 significant than in other years, yes.
 23 Q. Can we then look at figure 4, which is Samsung, and to
 24 my eye, anyway, those two lines track each other quite
 25 closely. Do you see that? They sort of track each

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1 other. They go up at the same time and go down at the
 2 same time and then they tail off together?
 3 A. What are you referring to?
 4 Q. I am sorry. We are talking about 3G CDMA and 3G UMTS.
 5 I am sorry, that is what I thought we were looking at,
 6 because you are saying there is continuous variation in
 7 the mix between them, but to my eyes those lines track
 8 each other. There is not continuous variation. They
 9 just track each other?
 10 A. Yes. No, I think that perhaps I did not explain myself
 11 sufficiently clearly. I did not say that there was
 12 a relative change between UMTS and CDMA. All that I am
 13 saying is that demand is not given and sometimes you
 14 sell more, sometimes you sell less, and that is the
 15 result of two things: the demand for consumers and how
 16 much and how strong you push your products. All that
 17 I was saying is that if you look at the variation
 18 between 2009 and 2012, for example, on the 3G CDMA, what
 19 you see is continuous movement in that line. I was not
 20 using — I was not using the 3G UMTS line as
 21 a benchmark.
 22 Q. I thought your point was about substitution between the
 23 two. Would that not depend on how volumes are moving
 24 between the two?
 25 A. No. Again, you are asking for me to produce on the

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1 basis of these figures the sort of evidence that I tell
 2 you that I cannot produce. I cannot see how product
 3 portfolio would have changed relative to prices. I do
 4 not see — here you can see that you see variations in
 5 relative in portfolios, yes, but I do not know whether
 6 that is in response to relative prices.
 7 So let me put it this way: suppose — take a look
 8 at, for example, the Samsung figure 2009. Okay? We see
 9 there relative composition of 3G CDMA and 3G UMTS
 10 in 2009. Let us look at 2012. Now you see that the
 11 proportion of CDMA is much less than UMTS. That would
 12 be a change in product portfolio that is consistent with
 13 CDMA becoming less important, but I would not use that
 14 as evidence in support of my hypothesis. It is not
 15 evidence in support of Mr Noble's hypothesis, but it is
 16 not even also not evidence in support of my hypothesis
 17 because I do not have the underlying relative prices.
 18 So you cannot use these figures either to credit or
 19 to discredit my hypothesis and the point that I was
 20 making with these figures was orders of magnitude more
 21 similar — more simple, excuse me, which is that if you
 22 look at the beginning of 2009 and the end of 2009, for
 23 example of 3G CDMA, you see variation. So it is not
 24 that Samsung or Apple or anyone else is compelled to buy
 25 a given number of CDMA chipsets to produce a given

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1 number of CDMA phones. They buy in response to demand
 2 pressures, supply pressures and relative margins.
 3 THE CHAIR: Thank you.
 4 MR WILLIAMS: Madam, I am not being at all critical of
 5 Dr Padilla, but I am very time constrained and some of
 6 the answers are quite long.
 7 THE CHAIR: Yes. I think you need to give more concise
 8 answers, Dr Padilla.
 9 A. I will do my best, I promise, and apologies for that,
 10 Mr Williams.
 11 MR WILLIAMS: I am going to move on now to OEM—specific
 12 markets and you define Apple and Samsung—specific
 13 markets. Just before I do that, I want to be totally
 14 clear about what you mean by that. Your OEM—specific
 15 markets include chips bought by other OEMs, do they not?
 16 A. No, that is not correct. The OEM—specific markets are
 17 chips bought by Apple and chips bought by Samsung.
 18 Q. Yes, but within the volumes in your markets you include
 19 equivalent chips bought by other OEMs of the same type.
 20 Is that not right?
 21 A. No, that is a misunderstanding as reflected in your
 22 skeleton. The thing is that when I compute market
 23 shares, in those OEM—specific markets I look at who
 24 could have sold into those markets, not only who have
 25 sold into those markets, and I proxy the relative

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1 strength of those that could have sold on the basis of
 2 what they sold in the market — in an OEM—agnostic
 3 market.
 4 Q. But you include chips that were sold by suppliers that
 5 were not selling to Apple and Samsung. That is right,
 6 is it not?
 7 A. To calculate the market shares, yes, because I am
 8 looking —
 9 Q. So you must include chips that are being sold to other
 10 OEMs because they are not being sold to Apple and
 11 Samsung, they are being supplied to somebody else. That
 12 must be right?
 13 A. But, again, the market — what I am trying to do is to
 14 proxy the relative strength of all those people that
 15 currently are not selling to Apple and Samsung,
 16 therefore they are not selling to Apple and Samsung, but
 17 could have sold to Apple and Samsung. I am using the
 18 market—wide market shares as a proxy of the relative
 19 strength.
 20 One thing I could have done, and I explained this in
 21 the hot—tub, is to calculate capacity market shares.
 22 THE CHAIR: I think you have given the answer, yes.
 23 MR WILLIAMS: Okay. So you give two reasons — two
 24 particular economic reasons for what you describe as
 25 "OEM—specific markets." One is that Apple and Samsung

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1 had distinct requirements and the other is that there is
 2 price dispersion. Do you agree?
 3 A. Yes.
 4 Q. So start with distinct requirements. Can we look at
 5 what is meant by that. Can we look at {EAOE/22/56}.
 6 This is paragraph 166 and actually this takes us back to
 7 the graphs we were just looking at. What we take from
 8 166 and the graphs is that Apple and Samsung bought
 9 chips that complied with different standards at
 10 different times. That is right, is it not?
 11 A. Yes, that is correct, but I think that the important
 12 thing is that they have different product portfolios at
 13 different points in time.
 14 Q. So to make that concrete, and this is a point I think
 15 you make in paragraph 158 of your report, at a certain
 16 point in time, Apple stopped buying LTE chips and only
 17 bought 5G chips, whereas Samsung continued to use LTE
 18 chips. That is the sort of point you make about the
 19 distinct requirements?
 20 A. One of the examples, as you know, the product portfolio
 21 of Samsung is much broader than that of Apple, yes, very
 22 generally.
 23 Q. Mr Noble's reason for not adopting OEM—specific markets
 24 is supply—side substitution and you and Mr Noble agree
 25 that there is supply—side substitution within each

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1 standard, do you not?
 2 A. That is correct.
 3 Q. So if we just look at that, {POE/24/12}, paragraph 20.2
 4 in the JES. So here you say:
 5 "The experts agree...there is ... supply
 6 substitution ... across suppliers within each standard.
 7 Our analyses are therefore both premised on
 8 substitutability across suppliers within each standard."
 9 You also agree with Mr Noble that there is not
 10 supply-side substitution between standards. That is
 11 agreed too, is it not?
 12 A. Correct.
 13 Q. So there is a lot of common ground actually on those
 14 points.
 15 A. On those two points, yes.
 16 Q. So if I just come back to the distinct requirements that
 17 you identify in paragraph 166. What we see from that is
 18 that Apple and Samsung decide when to launch handsets
 19 complying with a new standard and when to withdraw
 20 phones that only comply with the old standard. That is
 21 something that all OEMs do, is it not?
 22 A. That is correct.
 23 Q. All the OEMs' timings will be a bit different, will they
 24 not? They will all decide to do that at different
 25 times?

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1 A. Correct.
 2 Q. None of this tells us that Apple and Samsung are buying
 3 chips on their own product markets, does it? It just
 4 shows them buying products on the same market as
 5 everyone else, just at slightly different times?
 6 A. That is neither here nor there. I think that all this
 7 tells us is that they have different portfolios and
 8 consequently they can orchestrate substitution in
 9 different ways. Some people may do. Some people may
 10 not do. I have only looked at Apple and Samsung.
 11 Q. So the other issue that you raise in your report is
 12 pricing dispersion. Can we just look at what you said
 13 about this in the hot-tub. This is {Day7/24:7-21}.
 14 THE CHAIR: You might need to give the Opus reference.
 15 MR WILLIAMS: I am sorry. This was in open, Madam, so this
 16 one should work, I think. Here we are. You say on
 17 line 7, "There is price discrimination." At the end,
 18 you say:
 19 "This seems to me the poster child example of
 20 a price discrimination market."
 21 Do you remember saying that?
 22 A. Yes.
 23 Q. So can we compare that to what you say in your report at
 24 {EAOE/22/55}. This is paragraph 160. What you say is:
 25 "I note that the data shows a dispersion of pricing

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1 consistent with OEM-specific pricing."
 2 I think that is as high as you put it in your
 3 evidence that there is "dispersion consistent with
 4 OEM-specific markets". I did not read that as saying
 5 there are price discrimination markets, let alone that
 6 this is the "poster child of a price discrimination
 7 market". Have I read that correctly?
 8 A. I am a little bit surprised, not about what is in the
 9 report but about your interpretation. I always thought
 10 it was very clear that my OEM-specific markets were
 11 price discrimination markets because, by definition, you
 12 have OEM-specific markets if conditions of competition
 13 are different and therefore you are going to have
 14 different prices in different markets.
 15 Q. Neither you, nor Mr Noble, have done any analysis of
 16 customer-specific pricing across OEMs taking account of
 17 the complexities of pricing like rebates and discounts,
 18 have you?
 19 A. I mean, we have — I have looked at the various
 20 negotiations and interactions between Apple and Samsung,
 21 including MIA, the BCPA, etc, etc, and there you can see
 22 significant differences — sorry, you can see discounts,
 23 rebates, that are clearly OEM-specific.
 24 Q. Yes. But this point depends on a comparison between
 25 Apple and Samsung and the rest of the market, does it

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1 not? That is the way — that is your point about
 2 OEM-specific markets, they are different from others?
 3 A. To the best of my understanding Apple negotiates
 4 discounts only for itself, not for the rest of the
 5 market, and there is evidence that they have negotiated
 6 discounts and they have negotiated their own chipset
 7 prices and I believe that Samsung does exactly the same.
 8 I am not aware of any OEM that negotiates for others.
 9 Q. Paying different prices because you buy, for example,
 10 a different volume is not a difference in the conditions
 11 of competition, is it? It is just buying more or less
 12 than somebody else. Do you agree?
 13 A. No, I would agree. Paying different prices because you
 14 have an option to self-supply that the others do not
 15 have, that is playing separate markets. Paying
 16 different prices because you can substitute across
 17 products in ways that others cannot, that is a reason to
 18 have an OEM-specific market. The logic of the CDMA/UMTS
 19 argument that I made before applies very much to Apple
 20 and Samsung because they are two companies — two OEMs
 21 with very significant market power. Other OEMs do not
 22 have that option.
 23 Q. Dispersion of pricing is not enough to establish
 24 a price-discrimination market, is it?
 25 A. No. What is important is that you observe that the

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1 prices charged to one customer concretely are different
 2 from the prices charged to another customer
 3 reflecting —
 4 Q. To other customers, not to one other customer.
 5 A. To other customers, reflecting the fact that that
 6 customer or customers have different options available
 7 to them.
 8 Q. Can we look at {ABI/6/28}, please. This is the
 9 Commission's Market Definition Guidelines. I am sorry,
 10 we might need to go on to the next page {AB1/6/29},
 11 paragraph 88. I am sorry, I have the wrong reference.
 12 Page 28 {ABI/6/28}. This is the Commission's Market
 13 Definition Guidelines.
 14 A. Yes.
 15 Q. This deals with price discrimination or discrimination
 16 markets in 88. You can read that to yourself and then
 17 could you read footnote 119, please.
 18 A. I think that I know paragraph 88.
 19 Q. You know this?
 20 A. Yes.
 21 Q. I am not surprised.
 22 A. I may have contributed also in the process.
 23 Q. If you contributed, you will be familiar with footnote
 24 119 which says:
 25 "When conditions of competition and likely effects

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1 are similar across customers or customer groups, for
 2 example because of supply[—side] substitution, the
 3 Commission may nevertheless include such customers or
 4 customer groups in the same relevant markets."
 5 So —
 6 A. That is correct.
 7 Q. — we agreed earlier on that there is supply—side
 8 substitution within a standard, did we not?
 9 A. Yes, but that supply—side substitution is not the one
 10 that is relevant here and, by the way, just to make
 11 clear, I also wrote that report for the
 12 European Commission in May 2021 about the use of
 13 supply—side substitution so I know very well what I am
 14 talking about. The supply—side substitution in price
 15 discrimination markets is not supply—side substitution
 16 within standards. It has to be different.
 17 Q. I think it follows from paragraph 20.2 of the JES that
 18 if the hypothetical monopolist supplier of 5G chips were
 19 to put up prices to Apple, then you would expect another
 20 supplier to step in and defeat the SSNIP and there would
 21 be switching — supply—side switching. I think that is
 22 your position in 20.2, is it not?
 23 A. Sorry, let us go back to that and unpack it, do you
 24 mind, because I am not sure that I am following you?
 25 Sorry, I am not doubting, it is simply that I am not

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1 following you. Let us go and unpack it.
 2 Q. It was 24/12 — sorry, {POE/24/12}.
 3 A. 24/12. Is that my fourth report? No, that is —
 4 Q. JES, paragraph 20.2, there is supply—side substitution
 5 across suppliers within each standard?
 6 A. Yes.
 7 Q. So the point I am putting to you is that if the
 8 hypothetical monopolist supplier of 5G chips were to put
 9 up prices to Apple, you would expect another supplier to
 10 step in and defeat that?
 11 A. Another supplier of what?
 12 Q. Another supplier of 5G chips.
 13 A. No, because the hypothetical monopolist would control
 14 all the 5G chips.
 15 Q. The reality here is that —
 16 A. There is no reality. It is hypothetical. The
 17 hypothetical monopolist would control all 5G chips. The
 18 only form of supply—side substitution that could be the
 19 price—discrimination market, and it is explained in the
 20 same JES I think, is supply—side substitution across
 21 standards and Mr Noble and I agree that there is no
 22 supply—side substitution across standards.
 23 Q. But this is all starting from your premise that Apple
 24 has a distinct requirement for chips relating to
 25 particular standards at particular points in time, does

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1 it not? It comes back to your different requirements
 2 point?
 3 A. If we look at my market definition, it is very clear.
 4 My market definition says there is an Apple—specific
 5 market for 5G from 20 — if I am not mistaken, 2021,
 6 '22, '23. So the hypothetical monopolist of that market
 7 controls all 5G chipsets. All of them. Apple cannot
 8 buy 5G chipsets from anyone else.
 9 Q. Right. We will move on.
 10 A. Otherwise footnote 119 would not be an exception.
 11 Otherwise you would have that there would never be
 12 price—discrimination markets.
 13 Q. Can we move on to talk about self—supply, please. In
 14 the hot—tub you said that it is intellectually rigorous
 15 and correct to include self—supply in the market,
 16 because when Qualcomm is negotiating chipset prices with
 17 Apple and Samsung, it can leverage its ability to
 18 self—supply. Do you remember saying that?
 19 A. Yes.
 20 Q. Now, just dealing first with Apple. Apple did not start
 21 supplying — self—supplying chipsets
 22 until February 2025, did it?
 23 A. I do not recall now, but, yes, let us take it as what
 24 your saying is correct.
 25 Q. Just clearing away Apple. Apple had no ability to

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1 leverage self—supply at any stage before 2017?
 2 A. I believe it had self—supply.
 3 Q. Turning to Samsung, do you agree that Samsung had the
 4 incentive to self—supply as much of its chip supply as
 5 it could?
 6 A. I think that yes and no. I mean, when you self—supply,
 7 you balance quality and price and you also try to ensure
 8 security of supply so you may — even if self—supplying
 9 is even more economical, you may try to avoid potential
 10 disruptions by buying from a second source.
 11 Q. Can we look at {IRC/3/7}, please, paragraph 29. This is
 12 Mr Katouzian's evidence. He says:
 13 "It stands to reason it would be more profitable for
 14 Samsung to use the Samsung Exynos products ... rather
 15 than purchasing from a competitor."
 16 He refers to that incentive on Samsung as part of
 17 his description. Do you agree with Mr Katouzian?
 18 A. This is I would agree and allow me to use the expression
 19 of the economist, ceteris paribus, that is other things
 20 equal, so, yes, it is more economical and that is going
 21 to mean that other things equal, you will buy more from
 22 your own supply than from third parties, but there may
 23 be security supply issues, there may be quality
 24 differentiation issues that you want to factor in and,
 25 therefore, as a result, you multi—source.

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1 Q. I think it is right to say that at least until today
 2 Samsung has used its own foundries to manufacture chips,
 3 are you familiar with that, rather than outsourcing?
 4 A. I think that they use their own factories, yes, but
 5 I would not be able to testify on that because whatever
 6 knowledge I have from — about that is from another
 7 matter.
 8 Q. Samsung did not start self—supplying any chips
 9 until 2011 or thereabouts. Are you aware of that?
 10 A. Samsung was —
 11 Q. Did not start self—supplying any chips until about 2011?
 12 A. I do not recall, but I am happy to take it.
 13 Q. If that is right, self—supply could not have affected
 14 negotiations prior to that, could it, 2008 to 2009?
 15 A. No, but certainly it did after 2011 and, in particular,
 16 during the relevant period that I understand
 17 is October 2015 onwards.
 18 Q. It did not start self—supplying CDMA until 2018. Are
 19 you aware of that?
 20 A. I think that is correct.
 21 Q. Can we now look at {ORI/261.15}, please, which shows
 22 shares of LTE supply. If we look at these and we see
 23 shipments to Samsung, and we can see — that is the
 24 middle line — you can see "device shipments" there is a
 25 line for Samsung itself, do you see that?

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1 A. Sorry, I am trying to locate myself here.
 2 Q. This is shares in absolute volumes of LTE chipset
 3 supply.
 4 A. Yes.
 5 Q. The top box is shipments to Apple. The second one is
 6 shipments to Samsung.
 7 A. Right.
 8 Q. You can see there is a line for Samsung. So that is
 9 Samsung shipping to itself?
 10 A. That is shipments to Samsung, yes, and then there is
 11 Samsung and they start, yes, I can see that.
 12 Q. Yes. So in 2012 this data shows Samsung is not
 13 self—supplying anything to itself. I think it may be
 14 said that it actually started to supply in that year,
 15 but we can see from the figures for 2013 and 2014 that
 16 it is self—supplying less than 10% of its overall LTE
 17 chipset requirements. Do you see that?
 18 A. It is less than 10% in which year?
 19 Q. I was looking at 2013 and 2014.
 20 A. Correct. Well, actually, 2014 maybe is more than 10%.
 21 Q. There or thereabouts, is it not?
 22 A. Give or take.
 23 Q. Then it is buying the rest from Qualcomm at that time.
 24 We see that —
 25 A. These are shipments of LTE, the same time I am not sure

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1 how many LTE phones were sold.
 2 Q. Mostly the rest from Qualcomm. It is only once you get
 3 to 2017 that Samsung starts self—supplying more than
 4 half of its LTE needs. Do you see that?
 5 A. Yes.
 6 Q. So what it looks like from this is that Samsung is
 7 ramping up its production over time and trying to supply
 8 more and more of its own needs for LTE. Do you agree?
 9 A. Yes, and the point is — the clinical point is whether
 10 it would have ramped up its production much faster if
 11 Qualcomm was exercising market power and charging a lot
 12 for the chipsets, because this may well be the result of
 13 Qualcomm actually internalising the fact that there was
 14 an outside option, self—supply, and then moderating its
 15 prices. At one point, it seemed that not even doing so
 16 it was able to obtain half of the amount.
 17 Q. But Samsung had the incentive, did it not, to
 18 self—produce as much as it could? We covered that
 19 earlier on. If it could have ramped up production
 20 earlier on, it would have done?
 21 A. Not necessarily. Again, if I can ramp up production but
 22 if the threat of ramping up production means that
 23 third—party suppliers can bring their prices down, I may
 24 take advantage of that and, again, there are other
 25 issues, product differentiation, security of supply.

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1 I think that this evidence does not help you or help
 2 me. It simply says that there is a supply, self—supply,
 3 the self—supply change over time and the actual pattern
 4 may reflect the very fact that the self—supply
 5 disciplines Qualcomm prices or not.
 6 Q. Until 2015 the volumes are just too small for Samsung to
 7 leverage the ability to self—supply. That is the
 8 reality, is it not?
 9 A. Look, I cannot say one thing or the other and I am not
 10 sure that you can put it yourself either. I think that
 11 we do not have evidence to say that. The volumes — the
 12 question is: could the volumes have been higher if the
 13 prices were different? I do not think that we have the
 14 evidence to say one thing or the other.
 15 Q. Can we move on to a different topic, which is the
 16 materiality of CDMA for Samsung. Can we look at
 17 {EAOE/22/41}, paragraph 116, please.
 18 A. Paragraph 11?
 19 Q. 116. Here you say that CDMA — 3G CDMA was a small
 20 percentage of Samsung's needs during the term of
 21 the 2009 licence. Do you see that?
 22 A. Yes.
 23 Q. I do not think the figure is — the percentage is
 24 confidential any more, but we can all see it. It is
 25 a small percentage?

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1 A. Yes.
 2 (redacted — confidential information)
 3 A. I think so.
 4 Q. You say:
 5 "I find it implausible that Qualcomm could have
 6 leveraged those limited volumes ... to extract higher
 7 royalties ..."
 8 And so on.
 9 But no one is suggesting in 2009 Qualcomm was
 10 leveraging the volumes it might sell Samsung (redacted —
 11 confidential information) years later. If it was
 12 leveraging, it was doing so on the basis of what Samsung
 13 needed at that point in time and imminently, was it not?
 14 That is obvious, is it not?
 15 A. That is actually in contradiction with the CR's
 16 prospective market power theory.
 17 Q. Could you answer the question, rather than point out the
 18 inconsistency with another aspect of the case?
 19 A. I — that comes precisely because I never understood
 20 what was the theory. What we have done in the
 21 leveraging analysis is to look at sales at that point —
 22 at the point in the time and then during the entire
 23 duration of the agreement so I think I have been
 24 consistent all throughout.
 25 Q. I mean, can we bring up 261.10, please.

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1 A. In any event, we can look at the percentage in that
 2 particular year.
 3 Q. We are going to look at that now. We are going to look
 4 at 261.10 {ORI/261.10}. One can see in 2008 and 2009
 5 Samsung is buying 34, 45, 50, 44 million CDMA units from
 6 Qualcomm. Do you see that?
 7 A. I can see that.
 8 Q. I think you can take it from me that total — Qualcomm's
 9 total shipments of CDMA at about that time, they were
 10 around 200 million. I can show you the figure if you
 11 want.
 12 A. Where to?
 13 Q. About 200 million. I can show you the figure, if you
 14 want.
 15 A. I am prepared to take it.
 16 Q. So Samsung is selling about 1 in four 3G CDMA phones
 17 using a Qualcomm chip so it is about a quarter of
 18 Qualcomm's demand. So these are material numbers of
 19 chips, are they not? These are —
 20 A. Material number of chips for Qualcomm, which means that
 21 Qualcomm will be very careful in trying to threaten to
 22 disrupt that supply. I am not sure that —
 23 Q. We are focusing on — I think your point was about the
 24 importance to Samsung, not about the importance to
 25 Qualcomm.

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1 A. Correct, but you gave me a number now for Qualcomm, one
 2 out of four was your — I mean, let us clarify. You
 3 said one out of four CDMA chipsets for Qualcomm was
 4 directed to Samsung. I said "Yes, that illustrates that
 5 Samsung was a very particularly important —
 6 significantly important customer for Qualcomm". So
 7 Qualcomm would be very careful in threatening Samsung.
 8 Q. The point I am making to you, Dr Padilla, is that
 9 in 2008/2009, whatever the position was by 2018, these
 10 are material numbers of chips that are important to
 11 Samsung, are they not? It is about —
 12 A. The question of whether they are important or not is
 13 a relative concept. We need to look at — again, we
 14 could go to figure 4 in my report and see what was the
 15 relevance of 3G CDMA for Samsung in those years,
 16 relative to the relevance of the other technologies,
 17 because that is the argument that I am using that there
 18 is substitution across these technologies.
 19 Q. The figure of 7% in paragraph 116, it does not give
 20 a fair impression of Samsung's dependence at the
 21 relevant point in time, does it, which is 2008/2009?
 22 A. Samsung's dependency, no, I think that it does, and,
 23 again, we can go to figure 4, because I do not think
 24 that if my memory serves me well — let me just check,
 25 if you do not mind? I do not want to waste your time,

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1 but given that we are here, let me just ... (Pause)
 2 If we go to figure 4, which is {EAOE/22/57}, CDMA
 3 was important, but it was not as important as UMTS. It
 4 is true that it becomes less and less important over
 5 time. So if you want to tell me that I should have
 6 restricted attention to 2009, then it is not 7%, it is
 7 a higher number. If I look at the entire duration of
 8 the agreement, it is 7% and in any event has always been
 9 much less than 3G UMTS and if we apply the argument to
 10 CDMA—LTE, then it is small, whether we look at a given
 11 point in time or over the years.
 12 Q. The comparison to UMTS does not tell you whether Samsung
 13 stands to lose material volumes of business if there is
 14 an interruption to its 3G CDMA supply, does it?
 15 A. Right, but that is not point that we are assessing with
 16 market power. When we are assessing market power, what
 17 we are saying, or market definition, what we are saying
 18 is what happens if the CDMA price, the CDMA chipset
 19 price, goes up? The response does not need to be closed
 20 down the entire business — the entire CDMA business of
 21 Samsung. The response is: I buy a few less CDMA
 22 chipsets and I buy a few more UMTS chipsets.
 23 Q. We are back to that point, I understand.
 24 Can we move on to an issue about market shares?
 25 There was disagreement between you and Mr Noble about

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1 whether market shares were persistent. Can we please
 2 look at {Day7/85}, please, towards the bottom. I am
 3 sorry, could we scroll on a bit. I might have the wrong
 4 page. I am sorry, I have the wrong reference. Sorry,
 5 Madam, I have the wrong reference.
 6 THE CHAIR: It is all right.
 7 (Pause)
 8 THE CHAIR: Will now be a good time for a break?
 9 MR WILLIAMS: We are almost there. Top of 85.
 10 THE CHAIR: All right.
 11 MR WILLIAMS: It is the bottom of page 84, top of page 85.
 12 So I think what you are saying here is Apple is choosing
 13 Qualcomm because it is the best, but that does not mean
 14 Apple could not have made different decisions because it
 15 had substitution possibilities. That is your evidence,
 16 I think, on this question about what we read into market
 17 shares.
 18 A. I said that, but I am not sure exactly what is the
 19 context and what is your question, to tell you the
 20 truth.
 21 Q. So there was a debate between Mr Noble and you about
 22 what we read — whether the market shares are
 23 persistent.
 24 A. That is correct.
 25 Q. Yes. Perhaps it would help to look at your graph about

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1 this. So it is {EAOE/22/78}. Now, most — for most of
 2 the period covered by this graph, Qualcomm's market
 3 shares based on your market definition are over 50% and
 4 at times they are over 80% and I think you said in the
 5 hot-tub that market shares are high?
 6 A. Correct.
 7 Q. So if I understood your point correctly, it is not that
 8 the shares are not persistently high, if you just look
 9 at the graph; I understood your point to be that they
 10 are not high because Apple did not have a choice, they
 11 are high because Apple made the choices it did. That is
 12 what I understood your evidence to be. There were
 13 substitution possibilities. That was the language that
 14 I was drawing attention to.
 15 A. I mean, the problem that I think we are facing is that
 16 qualitative estimates are always complicated, including
 17 mine. So, you know, if I compare with the market share
 18 of Google in the search engine, which is a market of 95%
 19 more or less every single month of every single year for
 20 the last 20 years, that is persistently high. The
 21 market shares that you have here are high at points, are
 22 high — but much less high at other points, indicating
 23 that there have been losses of market share and
 24 acquisitions of market share, and this is because we
 25 have had different technologies and players have been

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1 entering into the technologies before others and then it
 2 has taken time to catch up, but these are much more
 3 dynamic markets than the sort of market that I think it
 4 is typically characterised as the one with persistently
 5 high market shares. Again, I am using as reference the
 6 search engine market.
 7 The other point I make, excuse me, is that to some
 8 extent the evolution is of market shares — Qualcomm
 9 market shares is driven by the choices of a very few
 10 customers and in particular by Apple and Samsung.
 11 Q. So I am just going to go through each of the different
 12 standards. I am not going to spend time on 3G CDMA
 13 because the Tribunal knows what the position was in
 14 relation to 3G CDMA, where Qualcomm had pretty much the
 15 whole market share.
 16 Can we focus on LTE, please, which is {POE/21/38}.
 17 This is Mr Noble's report. Now, the position we see
 18 from this — and this obviously leaves out Samsung
 19 self-supply but I am focusing on Apple at the moment —
 20 is before 2013 we can see — well, before 2013 there are
 21 very, very small volumes so I want to pick it up in 2013
 22 and we can see Qualcomm has close to 100% of the market
 23 and MediaTek has zero. Do you see that?
 24 A. Yes. I was still surprised by the fact that you said
 25 you were leaving self-supply because — Apple, because

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1 I thought that was an acknowledgement for a specific
 2 market but sorry for that. So, yes, 100%.
 3 Q. So at this time Apple was completely dependent on
 4 Qualcomm for LTE and we saw earlier on that Samsung was
 5 in more or less the same position. It was taking over
 6 90% or 90% of its shares from Qualcomm at this time as
 7 well. We saw that earlier on?
 8 A. Yes, but I disagree with you. I think that what you
 9 want to say is that Apple at that point was completely
 10 dependent on Qualcomm to the extent that it wanted to
 11 produce LTE—CDMAs. It does not mean that Qualcomm —
 12 Q. I am not talking about LTE—CDMA. This is all about LTE.
 13 A. It was completely dependent, no, it was not completely
 14 dependent.
 15 Q. We can see the market shares in 2013. Qualcomm has
 16 almost 100% market share and MediaTek has, I think,
 17 basically zero. So that is the position in 2013.
 18 A. Let me look at the data in my report.
 19 THE CHAIR: If you can just focus on this because
 20 Mr Williams is asking questions about what you see from
 21 this?
 22 A. Yes, what I wanted look in my report is the extent to
 23 which at that point, in 2013 which is the year that
 24 Mr Williams is referring, what was the percentage of
 25 phones that were LTE—compliant by Apple.

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1 MR WILLIAMS: I am not asking about that, Dr Padilla. I am
 2 asking you about the extent to which if Apple wanted to
 3 buy LTE chips, it was dependent on Qualcomm.
 4 A. If it wanted to buy LTE chips, yes, I agree.
 5 Q. If we look forward from 2013 to 2015, you can see things
 6 have moved on a bit but it is still — Qualcomm is still
 7 at about 80% of the market and MediaTek is only at about
 8 10%. Do you see that?
 9 A. Yes, but at that point it becomes much more complicated,
 10 because at that point the figures that we have here
 11 are — I think it is value because this is Mr Noble, so
 12 this is value, but anyway it is volume so this reflects
 13 the actual choices made by the different players,
 14 including Apple. It does not tell us that Apple could
 15 not have made a different choice because MediaTek did
 16 not have the capacity to supply. As soon as you have
 17 activity in supply by competitors, then they could have
 18 sold more if they had won the socket.
 19 Q. Apple cannot make a different choice at a point when
 20 Qualcomm has essentially 100% of the market, can it?
 21 A. That is why I considered in 2013 that it did not have an
 22 option, but as soon as you move away from 2013, it has
 23 options, that is what the graph is telling us,
 24 especially the green line, and all that I am telling you
 25 is that the particular level of the market shares at

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1 that time is, if I may, endogenous. It is the result of
 2 the decisions, among others, of Apple itself.
 3 Q. But if we just focus on 2013.
 4 A. Yes.
 5 Q. Qualcomm does not have the persistently high LTE — or
 6 does not have a share at that point and in the years
 7 afterwards because of Apple's decisions. Qualcomm has
 8 these market shares because, like most of the market,
 9 Apple depended on Qualcomm. That is the reality, is it
 10 not? Until Apple sponsored Intel in 2015, it was in the
 11 same position as others, dependent on Qualcomm?
 12 A. At that point in time, accepting as an assumption that
 13 MediaTek has zero because it was not able to deliver
 14 in 2013, which I think that we need to establish that as
 15 a fact, then it would be dependent in 2013, but it could
 16 have waited a few months when then MediaTek is present
 17 in the market and, given that there are no capacity
 18 constraints at that stage, it may have been able to
 19 shift.
 20 Again, whether or not it would have done that would
 21 depend on the relative prices, on the relative quality,
 22 etc, but the graph does not allow us to reach one
 23 conclusion or the other.
 24 Q. Can we look at {Day7/154}, please. Can you just read to
 25 yourself lines 11 to 21. (Pause)

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1 A. Yes.
 2 Q. So the evidence you give here is that a threat to
 3 withhold 100% of chips is a very credible threat. You
 4 refer to UMTS chips, but I am talking about LTE. It
 5 would allow the supplier to increase royalties very
 6 significantly. We have just seen that in 2013 Qualcomm
 7 could withhold what was essentially 100% of LTE chips
 8 for both Apple and Samsung. So, on your own logic, the
 9 threat to Apple and Samsung in 2013 was credible, was it
 10 not?
 11 A. I think that there are a number of non sequiturs in your
 12 statement, if I may.
 13 The first one is to the best of my understanding
 14 there was no threat. Secondly, the threat that I am
 15 referring here is not dated. It is — I am killing you
 16 from the UMTS market, not in a particular point in time,
 17 but forever and ever.
 18 You have the option to delay or anything like that,
 19 so I think that we are talking about very different
 20 scenarios. Plus, as I mentioned before, the fact that
 21 in 2013 Qualcomm has 100% would require, you know, we
 22 will need to check that indeed MediaTek was not capable
 23 of providing, that Apple and Samsung did not have the
 24 option to delay for a few months and so on and so forth.
 25 So this hypothetical that was used for illustration,

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1 saying there is a point in which if you control
 2 everything, of course you have a credible threat, but
 3 what you have in the picture is something that is very
 4 distant from Qualcomm controlling everything. It is
 5 having 100% market share at a particular point in time
 6 for two types of chipsets when there are competitors
 7 that, at least a few months later, are in the
 8 marketplace.
 9 So very different .
 10 MR WILLIAMS: I think that is a convenient moment, Madam.
 11 THE CHAIR: All right. We will take five minutes.
 12 (3.13 pm)
 13 (Short Break)
 14 (3.21 pm)
 15 MR WILLIAMS: Dr Padilla, in the light of the discussion we
 16 just had, I now want to go back to a different topic
 17 which is bidding markets, which was addressed in the
 18 hot-tub. Can we please bring up {AB3/14}. It is at tab
 19 1 of the hard copy bundle you have there, page 14. Is
 20 that right? {AB1/3}, is that — that is it. Page 14
 21 {AB1/3/14}. This is the CMA guideline dealing with
 22 bidding markets and it sets out criteria for a "bidding
 23 market". I do not think these criteria are addressed in
 24 your report, are they?
 25 A. No, they are not.

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1 Q. So we can see the criteria in this paragraph at the top
 2 of the page. The first criterion we see about four
 3 lines down is that tenders are large and infrequent so
 4 that suppliers are more likely to bid. Just pausing
 5 there, there was some discussion yesterday of whether
 6 Apple and Samsung were in a different position as far as
 7 that is concerned. Do you recall?
 8 A. I do not recall .
 9 Q. So I think the discussion was along the lines that
 10 Samsung has a large number of competitions — models and
 11 a large number of competitions for different slots. Do
 12 you recall that discussion in contrast to Apple?
 13 A. Yes.
 14 Q. I do not think you have said that every Samsung slot is
 15 a separate bidding market, have you?
 16 A. No, I did not say that. It could be, but I did not say
 17 that. I am not defining markets at the slot level, but
 18 at the OEM level.
 19 Q. So I think the focus here was on Apple, which has tended
 20 to let a smaller number of exclusive contracts. Have
 21 I understood that correctly?
 22 A. No. I think that in both instances, both Apple and
 23 Samsung, my view is that what they do is that they have
 24 slots and then there is competition for those slots.
 25 I do not think that they are necessarily separate and

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1 I do not even define separate markets per slot, but
 2 there are discrete opportunities, more opportunities in
 3 the context of Samsung than Apple, but discrete
 4 opportunities.
 5 Q. I am sorry to talk over you. I do not think saying there
 6 is competition for slots means there is a bidding market
 7 though, does it? We are looking at criteria for
 8 a bidding market here in the CMA guideline?
 9 A. No, I am saying it is one of the criteria .
 10 Q. Yes.
 11 A. We can go through all of them, if you wish.
 12 Q. I mean, if we focus on Apple, you can see one of the
 13 criterion, if we look about two-thirds of the way
 14 through the paragraph — halfway through:
 15 "... suppliers are not differentiated (so that for
 16 any particular bid, all suppliers are equally [well]
 17 placed to win the contract)."
 18 Then it goes on to say:
 19 "... if competition at the bidding stage is
 20 effective, this currently high market share would not
 21 necessarily reflect market power."
 22 Now —
 23 A. So I did not follow that. You are looking the first
 24 bullet of this page "bidding markets"?
 25 Q. I am now focusing on the words where it says "This is

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1 more likely to be the case" and one of the criteria is
 2 that all suppliers — sorry:
 3 "... suppliers are not differentiated (so that for
 4 any particular bid, all suppliers are equally well
 5 placed to win the contract)."
 6 Then it goes on to say — to refer to the need for
 7 competition at the bidding stage to be effective .
 8 Do you see that?
 9 A. Yes, and I agree with that proposition, but that does
 10 not mean that there is no differentiation whatsoever.
 11 Q. I have not asked you any other question yet, Dr Padilla?
 12 A. Excuse me.
 13 Q. The exclusive deal that Apple did in 2011 and indeed
 14 in 2013 included 3G CDMA, did it not?
 15 A. I believe so.
 16 Q. We have just seen that in 2013 Qualcomm essentially had
 17 100% share of the market for LTE, we saw that, did we
 18 not?
 19 A. Correct.
 20 Q. So there was only one supplier that could offer Apple an
 21 exclusive contract that included 3G CDMA and then LTE
 22 in 2013, was there not, and that was Qualcomm?
 23 A. Again, in that particular year, if the launch was that
 24 particular year, Samsung — sorry, Qualcomm would have
 25 been in a strong position and there is a fact that will

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1 need to be checked which is whether MediaTek was able to
 2 deliver, given that it entered the market a few months
 3 later. I am not able to opine on that.
 4 Q. I am going to move on now to 5G and with some
 5 trepidation, I am going to talk about prospective market
 6 power, but I am going to try and avoid the language and
 7 I am going to try and talk about the market position
 8 in April 2019.
 9 A. Okay.
 10 Q. So the first 5G devices came on the market in
 11 March 2019, I think. Does that sound about right?
 12 A. I think that that is correct. That is correct.
 13 Q. So April 2019 was very, very early days, but the product
 14 did actually exist on the market. There was a 5G chip
 15 in a 5G phone at the time?
 16 A. I think it was Samsung that first released the 5G
 17 phones.
 18 Q. Yes, the first —
 19 A. At some point in 2019.
 20 Q. So although we have ended up talking about prospective
 21 market power, by April 2019 at least this was a real
 22 market, it was not a prospective market?
 23 A. Yes, there were chipsets, yes.
 24 Q. It is in the nature of these projects that there is
 25 a decision about which chips to use before the chips are

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1 in commercial supply and considerably in advance of the
 2 handset coming on the market. That is right, is it not?
 3 A. The choice is for the OEMs to make. Some of them
 4 anticipate. Some of them do not anticipate much.
 5 Q. Yes, but they do not anticipate two weeks before the
 6 phone goes on the market, do they?
 7 A. I doubt it. I am not an expert. I think that — but
 8 I doubt that it would be two months before.
 9 Q. I mean, in April 2019, the prospective aspect for Apple
 10 is who is going to be able to deliver the chips I need
 11 in April — sorry, in late 2020. That was Apple's
 12 decision at that point in time. Do you agree?
 13 A. Assuming that late 2020 was set in stone and it was not
 14 part of the negotiation.
 15 Q. Yes. So I am going to cut this a bit short. You have
 16 seen the market shares in Mr Noble's report for 5G, have
 17 you not?
 18 A. Yes, I do not — I have not memorised them.
 19 Q. Okay. Perhaps I will just bring them up. It is
 20 {POE/21/42}. So you can see where the line sits. This
 21 actually includes Samsung self-supply at this point.
 22 A. Correct.
 23 Q. Just to clear something up, you said a few times last
 24 week that MediaTek had become the leader, I think,
 25 market leader by 2023, but certainly we can see from

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1 this MediaTek is not and has never been the market
 2 leader in 5G, has it?
 3 A. I believe that I was correct. I do not remember exactly
 4 the data that I was using. It is a factual issue that
 5 we can check in due course and that is my recollection.
 6 Q. So what I want to put to you is the Class
 7 Representative's case. I am not expecting you to agree
 8 with the case, but I want to put it to you. What we say
 9 is that in April 2019, Qualcomm was way ahead of the
 10 competition on 5G. Qualcomm knew that. Apple knew
 11 that. That was the basis on which they entered into the
 12 suite of agreements they entered into. If that is
 13 right, there is nothing conceptually novel about calling
 14 that market power, is there?
 15 A. The point — let us go to the facts. So what you are
 16 telling me is Apple launches in 2020. In 2020, MediaTek
 17 had chipsets in the market, not chipsets that were going
 18 to be in the market, chipsets that it was selling in the
 19 market. I do not think that they had those chipsets for
 20 two weeks either. If they were already selling them
 21 in 2020, it is because they were ready for somebody at
 22 the point in time in which that somebody could acquire
 23 those chipsets and that must have been 2019, a bit
 24 earlier. So in 2019 Apple could choose to go with
 25 Qualcomm or to go with MediaTek.

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1 Q. I am sorry, Dr Padilla, we are short of time and I put
 2 to you very simple point, which was that on the facts,
 3 as the Class Representative advances them, as
 4 at April 2019, it is not conceptually novel to say that
 5 Qualcomm had market power in 5G in a world where it had
 6 a 77% market share and it was the undisputed market
 7 leader?
 8 A. I disagree with you, because I think that what you are
 9 looking at is at the market share which is the result of
 10 the choice of the company that you said that was subject
 11 to that market power.
 12 THE CHAIR: That is what you call endogenous?
 13 A. Endogenous.
 14 MR WILLIAMS: Can we look at {EAOE/22/84}, please. 256.
 15 Maybe we need to start on the previous page, just so you
 16 can read it {EAOE/22/83}. I do not know if you have
 17 a hard copy. It might be easier for you to look in your
 18 hard copy.
 19 A. 256 in —
 20 Q. It is page 83, I think. 256(b).
 21 A. Yes.
 22 Q. So here you refer to a Qualcomm internal document
 23 which — it is inner ring confidential so I will not
 24 read it out or will not say what it says. It is
 25 footnote 371. You refer to a document which you say

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1 contradicts Mr Noble's assessment of Qualcomm's market
 2 power at that time. Do you see that point?
 3 A. Let me just read it.
 4 Q. Please refresh your memory, yes. (Pause)
 5 I want to make a simple point about it.
 6 A. I have read it.
 7 Q. That document dates from May 2018.
 8 A. Correct.
 9 Q. The Tribunal has seen evidence of how Qualcomm's
 10 assessment of Intel and other market players evolved
 11 over time. Would you agree that what mattered was the
 12 assessment by April 2019, not a single point
 13 in May 2018?
 14 A. I think that I would not be able to say April 2019, May
 15 or March or a little bit before or a little bit later,
 16 but I agree that what is important is, from a factual
 17 perspective, to look at whether Apple thought it was
 18 dependent, Qualcomm knew that Apple thought it was
 19 dependent and Apple knew that Qualcomm knew that it
 20 thought it was dependent. So, in other words, all this
 21 was common knowledge.
 22 Q. In April 2019. That is the point I am putting to you.
 23 A. I am not even sure why it is so important April 2019. I
 24 suppose the negotiations between Apple and Qualcomm took
 25 some time and they were debating and — so I am happy

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1 with Apple 2019, but I am not sure exactly what is
 2 sanctified — what is sacred about that date to tell you
 3 the truth.
 4 Q. The point I am putting to you is that the position moved
 5 on a lot after May 2018. That is all I am saying.
 6 A. I do not know. It may be that — it depends on what is
 7 the point in time in which Apple felt that it needed to
 8 start acquiring chipsets or working with somebody to
 9 develop chipsets and, as I said, I did not do an
 10 analysis of documents so I do not think that I am in
 11 a position to provide an answer.
 12 I was simply pointing out that as of 2018, Apple
 13 seemed to believe that it was not dependent. What you
 14 are saying is that then they believe convinced that they
 15 were dependent. Fine. It is for the court to decide.
 16 Q. I think we can move on from that point now.
 17 Can we now look at your fifth report, please,
 18 {IRE/25/5}. This is about Apple's alternatives at the
 19 time of that decision.
 20 A. Yes.
 21 Q. You talk about Samsung and MediaTek as potential
 22 alternatives. I am not going to debate with you the
 23 merits of MediaTek, because that is a factual question
 24 and the Tribunal has heard from Mr Katouzian about that.
 25 I do want to talk about Samsung because that does raise

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1 some economic issues.
 2 Can we just put this in context, please, at 261.16,
 3 which shows us 5G volumes in the market {ORI/261.16}.
 4 If we see "Shipments to all OEMs", just below halfway
 5 down the page, we can get a picture. In 2019 the
 6 volumes are tiny, but we can see that things really ramp
 7 up after that very quickly. Do you see that?
 8 A. Yes.
 9 Q. Actually, the take-up is very rapid if you look at the
 10 difference between 2019 and 2020. Do you see that?
 11 A. Yes.
 12 Q. Just to pick this up as we go through, the position
 13 in 2019, if you look at shipments to all OEMs, MediaTek
 14 is zero in 2019 and then it comes into the market
 15 in 2020, but Qualcomm is still many, many times larger,
 16 as we saw in the other graph. Do you see that?
 17 A. Yes, except that I disagree with the expression "it
 18 comes into the market". 2020 they made shipments. The
 19 chipsets must have been developed before. I do not
 20 think you develop a chipset in two weeks, as you said.
 21 Q. Okay. Just focusing on Samsung, because, as I said,
 22 that is where I want to look at this. If we look at the
 23 percentage of shipments from Qualcomm to Samsung, we can
 24 see — I mean, it is consistently — if we look at the
 25 shipments to Samsung, can you see it is consistently 50%

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1 from 2020? Do you see that?
 2 A. Less than 50%. I mean, it is 50% in 2020, but it
 3 becomes less over time; no?
 4 Q. The shipments from Qualcomm?
 5 A. So shipments —
 6 THE CHAIR: Well, it is hovering around that.
 7 A. Yes. That is okay.
 8 MR WILLIAMS: Focusing on Samsung self-supply, the pattern
 9 we see is that the volumes go up, but actually the
 10 proportion of the supply is going down. Do you see
 11 that?
 12 A. Yes, that seems correct.
 13 Q. So, I mean, that seems to suggest that Samsung could not
 14 meet its own needs, rather than meet the needs of
 15 another major OEM, does it not, if we look at that
 16 pattern of Samsung supplying itself?
 17 A. No, I do not think so. I think that is consistent with
 18 that explanation and it is consistent with other
 19 explanations in terms of differences in prices,
 20 differences in quality, the emergence of MediaTek, there
 21 are a number of potential explanations that are
 22 consistent with those figures.
 23 Q. Can we look at the line shipments to all OEMs and
 24 Samsung. Can you see the numbers of shipments that it
 25 is making there?

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1 A. Yes, I see that.
 2 Q. You can see the most it shipped in a single year is just
 3 under 60 million. Do you see that in 2023?
 4 A. 2023 is 58.2.
 5 Q. That is right.
 6 A. Of which it seems that —
 7 Q. Can we look at the top line and look at what Apple's
 8 requirements were every year.
 9 A. Apple needs 206.6?
 10 Q. So Apple needs 200 million chips a year every year
 11 basically, does it not?
 12 A. That is what it was purchasing, yes.
 13 Q. I mean, the reality is Samsung's not a credible supplier
 14 for Apple's 5G chip needs, is it? For two
 15 reasons: first of all, the volumes are nowhere near big
 16 enough and, secondly, if Samsung could make enough of
 17 these chips, it would be using them itself rather than
 18 sell them to Apple? Is that not the reality?
 19 A. I think that both statements are incorrect. I think
 20 that, again, you are forgetting that we are talking
 21 about market definition. The question is if Qualcomm
 22 had increased its prices, could have lost some volume,
 23 not all volume. It is only enough that it would have
 24 lost some volume to Samsung and the question then will
 25 be — I am not sure exactly what "some volume" means but

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1 suppose there is 10%, could Samsung have moved from 58.2
 2 to 78.2? I do not have the answer. I do not know, but
 3 that is what would need to be investigated.
 4 Q. I was not talking about market definition but that does
 5 not matter.
 6 Can we move on to a different topic now. In the
 7 hot-tub do you remember that there was discussion about
 8 why Qualcomm might be incentivised to put up licensing
 9 royalties rather than chipset prices and vice versa? Do
 10 you remember that discussion?
 11 A. Yes.
 12 Q. One of the points —
 13 A. You wanted to ask a question about that and in end you
 14 were not allowed I think.
 15 Q. That is right. I am going to ask you, Dr Padilla.
 16 A. Sorry.
 17 Q. I am glad that my line of questioning is so discrete
 18 that you cannot see where I am coming from.
 19 So you said in your evidence that the buyer is the
 20 same on both sides of the transaction and I think you
 21 were talking about a situation where an OEM is both
 22 buying chips from Qualcomm and negotiating a royalty.
 23 In that situation, the customer is the same on both
 24 sides. That is it right, is it not?
 25 A. I think so; no?

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1 Q. But the royalties, the set royalties, are not only paid
 2 by Qualcomm to chipset customers, are they?
 3 A. No, the royalties are paid by all chipset manufacturers.
 4 Q. They are paid by —
 5 A. Sorry, by OEMs for all the chipsets that they purchase
 6 or for all the phones that they manufacture.
 7 Q. It is anyone who makes a device conforming to the
 8 standard?
 9 A. Yes, that is correct.
 10 Q. So I am going to put something to you which is again our
 11 case and then put something to you on the basis of our
 12 case to see if you agree with the logic.
 13 So our case is that Qualcomm uses the conduct that
 14 is at issue to inflate royalties and point 2 is that
 15 that also has the effect of dragging up royalties across
 16 the market for all licensees, including those that buy
 17 chips from other manufacturers. You are aware that we
 18 make both of those points?
 19 A. I am aware of your theory of harm, but it is — but I do
 20 not think that — well, ask your question.
 21 Q. I think that is for the best, yes.
 22 So if you accept those two points, then Qualcomm is
 23 not just going to benefit from inflated royalties paid
 24 by its own chipset customers, is it? It is going to
 25 benefit from higher royalties from customers who do not

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1 pay the chipset price. That is right, is it not?
 2 A. Yes, but there is a fundamental problem so let me
 3 explain what the fundamental problem is with an
 4 illustration. So let us suppose that what we are saying
 5 is Qualcomm has a monopoly in LTE—CDMA, let us say,
 6 okay, but it does not want to exploit that monopoly in
 7 LTE—CDMA by charging higher chipset prices because it
 8 fears (inaudible). So it increases royalties and those
 9 royalties, according to the CR, are going to be paid by
 10 all chipset makers, except that, according to the CR
 11 itself, there are no competing CDMA—LTE chipsets. So
 12 that is the problem. The problem is that you cannot
 13 have it both ways.
 14 You cannot say that there are no competing chipset
 15 manufacturers and, at the same time, saying that they
 16 are going to be taxed, because they do not exist
 17 according to your theory.
 18 Q. The simple point I am putting to you is that if
 19 royalties are inflated at the — SEP royalties are
 20 inflated, then higher royalties are going to be paid by
 21 people who are not buying Qualcomm chips?
 22 A. The only point I am making is that they can only be
 23 inflated if you have credible threat, that is that there
 24 are no alternatives, and therefore there are no
 25 alternative chipset manufacturers that are going to be

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1 taxed by the increased royalties .
 2 Q. I think we are straying outside the bounds of my narrow
 3 question. I think we are going to have to move on in
 4 the interests of time.
 5 There is an issue between you and Mr Noble about the
 6 materiality for Qualcomm of losing Apple chipset
 7 revenues. I just want to touch on that issue. Could we
 8 please look at {POF/480/3}. This is a Qualcomm internal
 9 email from mid-2014. I do not know whether you had ever
 10 seen this before it was notified to you?
 11 A. No, I had not seen it before.
 12 Q. Could you read the paragraph in the middle that says:
 13 "Apple. The biggest upside ..."
 14 (Pause)
 15 A. I have read it .
 16 Q. So in this email, Jim Thompson, he is writing to
 17 Steve Mollenkopf, who is now the CEO, and Jim Thompson,
 18 I believe, is either head of engineering or chief
 19 technical officer . He is in a technical role. He says
 20 that he knows Apple wants to bring in Intel because of
 21 the licensing issue. Do you see that?
 22 A. That's what he says, yes.
 23 Q. It looks like they are talking about Apple's concerns
 24 about the level of the royalty . That is what is look
 25 like from the context; do you agree?

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1 A. That seems to be the discussion and Apple has been
 2 opposing all royalties from all licensors over the years
 3 so I am not surprised that they thought so.
 4 Q. What this email says is that Qualcomm is not going to
 5 give way on the licensing issue and in fact they are
 6 going to take a harder line . Do you agree that is what
 7 the email says?
 8 A. Yes.
 9 Q. Now, the issue that you focus on, and which has come
 10 into focus in this debate with you and Mr Noble, is the
 11 materiality of the loss of chipset revenue, but do you
 12 agree that Qualcomm did not look at that in isolation?
 13 We can see that from this email. It is trading off the
 14 effect of this dispute on chipset revenues and the
 15 effect on its licensing revenues. Do you agree with
 16 that?
 17 A. I think that you are reading too much into that
 18 sentence. I am not able to take a position.
 19 Q. I mean, we know that Qualcomm was prepared to let Apple
 20 walk away as a chipset customer, rather than make any
 21 concession on the royalty . We know that much, do we
 22 not?
 23 A. Well, we know that this engineer, who I had never
 24 encountered before, who may be very important or not
 25 very important — it is for the court to determine —

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1 has an opinion.
 2 Q. I mean, can I put this to you and see whether you can
 3 answer it: I mean, looking at this email, if Qualcomm
 4 had been seriously concerned about losing chipset
 5 revenues, then it could have made concessions on the
 6 licensing disagreement with Apple, could it not? That
 7 would be one way of saving the chipset revenues.
 8 A. Again, I am not sure that I understand that they think
 9 that in equilibrium they are going to lose anything and
 10 this is the opinion of the engineer.
 11 Look, I am not able to provide you with
 12 corroborating or I am not able to say that this supports
 13 or criticises anything. It is an opinion and I do not
 14 know in which context, what was the response, what were
 15 the questions that were considering.
 16 Q. Can I ask you this: would you agree that in thinking
 17 about Qualcomm's incentives in this situation, whether
 18 to let Apple walk away, we cannot just look at the loss
 19 of chipset revenues in isolation , we have to look at its
 20 incentives on the licensing side too, because that is
 21 what Qualcomm seems to be doing?
 22 A. That is what this engineer believes and I can understand
 23 the logic because it is the single — it is the single
 24 customer, as we are saying. They are buying both
 25 things. So I think that, yes.

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1 Q. I am going to now move on to leveraging. Can we look at
 2 {EAOE/12/6}. Can we read, please, paragraph 2.1 and
 3 then 2.2. (Pause)
 4 A. Excuse me, I lost track. Paragraph 2.1 and 2.2 in?
 5 Q. In your third report.
 6 A. Yes.
 7 Q. Do you see footnote 8? Can you see that cross-refers to
 8 the Class Representative's reply?
 9 A. Qualcomm's defence, 20 — yes.
 10 Q. Yes. Paragraph 25(c). So can we then look at that,
 11 please, at {ORA/3/17}. Just read subparagraph (c) to
 12 yourself. (Pause)
 13 A. Okay.
 14 Q. So that paragraph is just saying that the sums that
 15 Qualcomm charges do not reflect a fair return, but they
 16 reflect its market power. Is it not saying that every
 17 OEM was charged a sum that was proportionate to
 18 Qualcomm's market power. It does not say that, does it?
 19 A. You are questioning the footnote?
 20 Q. I am questioning the paragraph of the pleading which you
 21 say forms the basis of the Qualcomm — of the Class
 22 Representative's theory of harm and which you say leads
 23 you to conclude that the — that on the Class
 24 Representative's theory of harm royalties would be in
 25 proportion to an OEM's dependence on Qualcomm. I am

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1 just saying the premise for that understanding is just
 2 incorrect, it is a misreading of this paragraph, is it
 3 not?
 4 A. Let me consider again because you may understand I do
 5 not remember this footnote and this paragraph so let me
 6 read it again. There are months distance from there to
 7 here.
 8 Q. Does this paragraph of the reply, as you read it now,
 9 say that royalties would be expected to be proportionate
 10 to an OEM's dependence on Qualcomm?
 11 A. Sorry, my reading now that I have read it again, it
 12 confirms my interpretation. You are saying — the
 13 paragraph in question says that the NLNC policy
 14 inherently involves Qualcomm charging licensing sums
 15 that reflect Qualcomm's market power in the supply of
 16 chipsets. So it has to be related to the supply of
 17 chipsets. If you take my OEM-specific market
 18 definitions, it would be the supply of chipsets to Apple
 19 and the supply of chipsets to Samsung.
 20 If you take Mr Noble's broad market definition, then
 21 what the — it is alleged is that Qualcomm is leveraging
 22 its market power in the supply of chipsets on to
 23 royalties.
 24 Q. But not —
 25 A. With all due respect —

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1 Q. But not in proportion to an individual OEM's dependence
 2 on Qualcomm. That is the only point I am putting to
 3 you.
 4 A. But the leveraging analysis looks at dependency OEM by
 5 OEM, but it also has a robustness test in which we are
 6 looking at the position of Qualcomm in chipset markets
 7 more broadly. So it is testing this proposition under
 8 the market definition proposed by Mr Noble and under my
 9 market definitions. When you are saying "in
 10 proportion", I think that there is something that I need
 11 to clarify.
 12 The leveraging analysis does not say that a 10%
 13 increase in dependency translates into a 10% higher
 14 royalty. It does not impose a linear relationship or
 15 a non-linear relationship or whatever form of
 16 relationship. It simply says that if Qualcomm is
 17 stronger in chipsets, it should be able, according to
 18 the theory of harm, to extract higher rents in
 19 royalties, in whatever proportion or relationship.
 20 Q. We saw paragraph 2.2, but we will deal with that in
 21 submissions later on.
 22 Can we look at Mr Noble's ninth report {EAOE/17/8}.
 23 You are familiar with this. It is Mr Noble's ninth
 24 report.
 25 A. I have read it in due course, yes. I have not memorised

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1 it either so I will follow you.
 2 Q. 2.6, 2.8, 2.9, they set out a whole range of factors
 3 that affect royalties which may differ across OEMs and
 4 they are mostly taken from Mr Melin who is Qualcomm's
 5 industry expert. As far as you are aware, is there any
 6 disagreement about the point that Mr Melin identifies?
 7 A. As far as I am aware.
 8 Q. Mr Melin identifies all of these factors —
 9 A. No, I have no disagreement. I agree with those factors.
 10 Q. So if the chipset royalty is affected by all of these
 11 different factors and the effect of NLNC is to push the
 12 rate up from where it would otherwise be, you would not
 13 expect to see a straight-line relationship between
 14 dependence and royalties, would you? You would just
 15 expect to see that royalty is higher than it would be in
 16 the counterfactual for any OEM. Do you accept that?
 17 A. I never said that there has to be a linear relationship.
 18 All that I said is that according to your theory of
 19 harm, there is one particular factor that is very
 20 relevant, which is chipset market power and that that
 21 has to be reflected in the data and it is not, but
 22 I never postulated a linear relationship and I would
 23 agree with you there is not necessarily a linear
 24 relationship. It could be exponential, logarithmic,
 25 hyperbolic, cubic.

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1 Q. But —
 2 A. Quadratic.
 3 Q. I'll keep going with that line of analysis, I mean, if
 4 royalty rates are not in proportion to dependence, then
 5 you do not learn anything about the Class
 6 Representative's case from the level of the royalty paid
 7 by Apple and Samsung relative to what other OEMs paid,
 8 do you? They may have paid lower royalties than others
 9 did both with and without the conduct. Do you agree
 10 with that?
 11 A. I am not sure that I understand the question. Could you
 12 repeat it, sorry?
 13 Q. One of the points you make is that Apple and Samsung
 14 paid lower royalties than others.
 15 A. Yes.
 16 Q. If the theory of harm is simply that the conduct
 17 inflated the level of royalty above that in
 18 a counterfactual —
 19 A. That is confidential.
 20 Q. I was not going — I was going to go into numbers in
 21 confidential.
 22 MR WILLIAMS: I am just wondering, Madam, whether I go into
 23 closed session now.
 24 THE CHAIR: All right. Let us do that.
 25 (3.56 pm)

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1 (Redacted — confidential information)
 2 In Open Court
 3 (4.08 pm)
 4 MR WILLIAMS: In your leveraging analysis you have two
 5 control groups. One of them is contract manufacturers
 6 and you explained last week that they were less affected
 7 by NLNC, because they generally sell to licensed OEMs
 8 and I think you said they are not unlikely to have
 9 foreseen a situation where they sell to an unlicensed
 10 OEM that depends on Qualcomm?
 11 A. I do not know whether they were able or unable. All
 12 I am saying is that their contracts were signed so early
 13 that it is difficult to believe that they were
 14 anticipating what would be the position of Qualcomm in
 15 2019, for example, given that the agreements were 2004.
 16 Q. Yes. So can we just unpack that a little bit. Can we
 17 please bring up {POF/95}, which is an example of one of
 18 the CM licences. This is with Foxconn, I think. Can we
 19 turn on to page 10 {POF/95/10}. This is outer ring
 20 confidential so I will not read anything out, but if you
 21 just read clause 5.1, which runs from page 11 — 10 on
 22 to page 11 {POF/95/10—11}.
 23 A. Sorry, it moved and I lost it. Which paragraph is it?
 24 Q. I think it is in your hard-copy bundle. It is not. It
 25 is clause 5.1.

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1 A. 5.1. Okay.
 2 Q. So you can see —
 3 A. I am reading. I am reading. (Pause)
 4 Actually it is a long paragraph. Do you want to
 5 point me to a particular sentence or sentences?
 6 Q. So you can stop at the words "unlicensed customers"
 7 about five lines down on page 11.
 8 A. Okay, let me read. (Pause)
 9 Q. Do you see that?
 10 A. I am reading.
 11 Q. We can see that this licence only applies where it is
 12 actually needed. Do you see that?
 13 A. I have not finished reading.
 14 Q. I am sorry. I thought you said you had.
 15 A. I am slow. (Pause)
 16 Yes. So what is the point you want to make because,
 17 you know, I am reading but maybe I am missing something.
 18 Q. I think the point you raised was most of the time CMs do
 19 not need a licence because most of the OEMs were
 20 licensed?
 21 A. Yes.
 22 Q. This licence is dealing — it is specifically designed
 23 to cater for the opposite situation. That is the only
 24 point I am making to you. So this is a situation where
 25 the licence is needed.

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1 A. So this is a situation and that is why I said that it is
 2 less needed, not absolutely needed — not needed.
 3 Q. I understand. One of the contract manufacturers we are
 4 interested in is Pegatron. You are aware of them. They
 5 were one of the suppliers to Apple?
 6 A. Yes.
 7 Q. They took a licence — well, I will not say the date,
 8 but I do not think it is confidential, but — maybe we
 9 can just look at the evidence I wanted to look at. It
 10 is {POD/7/32}. You can see there is evidence from
 11 Monica Yang of Pegatron. This is not confidential.
 12 A. This is the date of the Pegatron —
 13 Q. The passage that starts with 244. If you can just
 14 read —
 15 A. Paragraph starts at?
 16 Q. It is — do you see there is a first passage number 226
 17 and a second passage number 244? Do you see that?
 18 A. Now I see it, yes.
 19 Q. Could you just read the section starting 244. (Pause)
 20 A. Right. I can see that.
 21 Q. So on the case, as the Class Representative puts it,
 22 this is a simple no licence, no chips, is it not? They
 23 are a contract manufacturer, but they needed the chips
 24 for their business and they are affected in just the
 25 same way as an OEM is, are they not?

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1 A. That is what he is claiming, yes.
 2 Q. So it does not matter whether this licence was entered
 3 into to serve Apple or anyone else, does it, because the
 4 contract manufacturers needed the licence in order to
 5 buy the chips to make the phone for an unlicensed
 6 customer?
 7 A. I think that is for the court to decide. I think that
 8 this is the statement from this gentleman in this Q&A
 9 prepared I do not know when in response to I do not know
 10 what and I don't know how much you can generalise.
 11 I suppose that there would be different positions
 12 between the two parties and the court will have to
 13 decide. I am afraid I cannot help.
 14 Q. So that is your first control and the point I have been
 15 putting to you is that they are not a group that does
 16 not need a license. They need a licence for the reasons
 17 we have just been looking at.
 18 Your other control is explained at {EAOE/12/6}. Do
 19 you see (k)?
 20 A. No.
 21 Q. So that is your other control group and you say this is
 22 OEMs that have not purchased before from Qualcomm.
 23 A. Right.
 24 Q. So they could not have been dependent on Qualcomm?
 25 A. Yes, now I can see it. It is at the top.

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1 Q. I will not say the names out loud because they are
 2 marked as confidential. Now, I think it is right to say
 3 that the last two suppliers that are named were new
 4 entrants at the time they obtained their licences,
 5 although I am not sure there is any evidence about that.
 6 I mean, once they had entered market, they did have to
 7 buy chips from somebody or they could not make any
 8 phones. Presumably you agree with that?
 9 A. Presumably. More than presumably, I agree with that.
 10 Q. We can see the dates of the licenses there?
 11 A. Yes.
 12 Q. This is the 3G era, is it not?
 13 A. This is 3G, yes.
 14 Q. You can see the manufacturers. I do not know how
 15 familiar you are with them, but each of them is from
 16 a country where CDMA is used. Do you see that?
 17 A. Where CDMA is used, but also UMTS is used.
 18 Q. Yes, but CDMA was used in the countries where they are
 19 from. Do you —
 20 A. Yes.
 21 Q. So it is a fair assumption, is it not, that they needed
 22 3G CDMA chips to make phones for their home markets, is
 23 it not?
 24 A. I doubt it because they never bought; no? I think that
 25 the whole purpose of this is to look at — to look at

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1 licensees that never purchased.
 2 Q. Never previously purchased, never purchased before they
 3 are licensed I thought was the point?
 4 A. Oh, so you are saying that they were dependent — they
 5 would be dependent in the future?
 6 Q. I am saying that at around the time that they entered
 7 into these licences, they very probably needed 3G CDMA
 8 chips to make phones for their home markets?
 9 A. I do not know.
 10 Q. You have not looked into that?
 11 A. I have — I do not recall having looked into that, no.
 12 Q. But if they did need those chips, then they needed
 13 a licence, did they not?
 14 A. If they wanted to sell those chips, phones on those
 15 chips, they would need a licence.
 16 (Pause)
 17 Q. The last few questions are about the NDRC. Now, you say
 18 that the NDRC rate is a potential counterfactual
 19 benchmark, do you not?
 20 A. Yes.
 21 Q. If we could look at that in the JES {POE/24/45}. Can
 22 you look at 78.2 there.
 23 A. Yes.
 24 Q. So, if I understand your logic here, it is that the NLNC
 25 resolution was not — sorry, NDRC resolution was not

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1 itself affected by the conduct at issue. Have I read
 2 that correctly?
 3 I am sorry if I am squinting at you. I am now
 4 looking straight at the sun, Dr Padilla, so it is about
 5 the sun, rather than anything you are saying.
 6 A. Could you repeat the question, please?
 7 Q. So I think your logic in this paragraph is that the NDRC
 8 resolution is not itself affected by the conduct at
 9 issue, so therefore you are saying it is a potential
 10 competitive benchmark?
 11 A. So precisely what I am saying is that the royalty rates
 12 that resulted from the NDRC resolution cannot be
 13 affected by the NLNC policy.
 14 Q. Yes. So can we just look at what Mr Noble says about
 15 this in the JES at 77.1, please. This is on page 44,
 16 the previous page {POE/24/44}. What Mr Noble says here
 17 is that he has not seen evidence that the NDRC
 18 resolution brought the rate to a competitive level.
 19 That is all he is saying, is it not? Do you accept
 20 that?
 21 A. Yes, and I think that what my interpretation of this is
 22 that the NDRC rates proxy those that would emerge in the
 23 counterfactual as defined by Mr Moser the other day,
 24 that is not in the inner bilateral negotiation resulting
 25 from, you know, which chipset dependency by third party

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1 decision-maker.
 2 Q. Right. But you have not presented any evidence that the
 3 NDRC rate is itself fair value; it is just what the NDRC
 4 accepted as an overall cap as it applies to every OEM in
 5 the market. That is right, is it not?
 6 A. It is a third party decision-maker which is not affected
 7 by any degree of dependency —
 8 Q. But it is not —
 9 A. — from chipsets or from anything else and therefore it
 10 is a good proxy of what an efficient decision-maker in
 11 the counterfactual would decide.
 12 Q. It is an overall cap for all OEMs. It is not the same
 13 thing as a party going to court and seeking
 14 a determination of a FRAND rate as it applies to them,
 15 is it? It is not that?
 16 A. Well, according to the indirect effect theory of
 17 Mr Noble, one thing and the other are exactly the same,
 18 but, leaving that aside, no, it is not the same, but it
 19 is a good proxy is all that I am saying.
 20 Q. Can we look at the joint expert statement on page 53,
 21 please {POE/24/53}. At point 86, I am not going to read
 22 this out, but Mr Noble presents other evidence that the
 23 Qualcomm rate is inflated and he says this is a good
 24 proxy. Do you see in point 86, that is another proxy;
 25 yes?

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1 A. Yes, I see that, and ---
 2 Q. If one thinks about the way that FRAND litigation works,
 3 that is exactly the sort of evidence that would be
 4 considered in FRAND litigation. Do you agree?
 5 A. This is one of the things that would be looked at,
 6 although, in my experience, and I believe consistently
 7 with the latest ruling in *Optis v Apple*, you tend to
 8 focus on the same portfolio, not in the portfolio of
 9 another company.
 10 Q. Right. The only point I am putting to you, Dr Padilla,
 11 is that either we look at all of the evidence about what
 12 might be a competitive benchmark or we look at none of
 13 it. We cannot look at the NDRC resolution and
 14 say: well, that is a competitive benchmark but we are
 15 not going to look at that competitive benchmark. These
 16 are all matters for trial 2, are they not; they are all
 17 matters for another stage of the litigation?
 18 A. Look, again, this 86 was a bit surprising to me, to tell
 19 you the truth, because it seems to me that belongs to if
 20 we were in a second trial. On the basis of the evidence
 21 that I had, and I think that Mr Noble does not disagree
 22 with that, the NDRC rate is not affected by NLNC.
 23 Again, I do not know exactly now whether FRAND is
 24 the relevant counterfactual in your mind or not, but
 25 NDRC is not affected by NLNC. It seems to me that it

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1 provided a good framework for the leveraging analysis in
 2 the context of the first trial.
 3 Q. I mean, you are a very experienced competition
 4 economist, Dr Padilla. In your experience, when the
 5 regulator --- the Competition Authority looks at
 6 a problem, do they always --- and they impose remedies,
 7 do they always go far enough to impose an appropriate
 8 remedy for every party in the market?
 9 A. I think that, look, they --- I am pretty sure that the
 10 Chinese Government and, in this particular instance, the
 11 agency, the NDRC, was trying to make sure that the
 12 companies directly in which it held a direct interest in
 13 the Chinese companies, were paying something that was
 14 fair, reasonable and non-discriminatory.
 15 I think what happened is that later on, in 2018,
 16 Qualcomm extended the same terms and conditions to
 17 everybody else, not only in China.
 18 So, yes, I think that I am pretty sure that the
 19 Chinese were really looking to get the best possible
 20 deal.
 21 Q. Can I just deal with one more issue, which is whether
 22 the NDRC's decision implies that Qualcomm's previous
 23 rates were too high. That is on page 45 of the joint
 24 statement {POE/24/45}. It is paragraph 78.3. The point
 25 you make is that you can have a FRAND rate and

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1 voluntarily charge less.
 2 So are you saying that the NDRC thought that the
 3 prior rate was FRAND and that Qualcomm was now
 4 voluntarily charging less than the prior FRAND rate? Is
 5 that what you are saying the NDRC thought?
 6 A. So could you repeat the question?
 7 Q. Well, I am just asking you what paragraph 78.3 means
 8 because ---
 9 A. Let me just read it.
 10 Q. --- this is dealing with the question of whether the
 11 NDRC's decision implies that the prior rates were too
 12 high and I do not understand what you are saying in
 13 paragraph 78.3. I mean, are you saying that the NDRC
 14 thought that the prior rate was FRAND, or may have
 15 thought that, and that all Qualcomm was doing under that
 16 resolution was voluntarily reducing prices within
 17 a FRAND range? Is that what you are saying happened
 18 under that remedy?
 19 A. I think that all that I am saying there is that from the
 20 commitment achieved or the commitment entered into, you
 21 cannot infer that the rates before were excessive or not
 22 FRAND.
 23 Q. Right. But I am focusing on what the NDRC thought.
 24 I mean, do you accept that the NDRC must have thought
 25 that the prior rates were too high?

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1 A. The NDRC wanted lower?
 2 Q. Yes.
 3 A. Yes, I am prepared to accept that.
 4 MR WILLIAMS: Madam, that is the end of my
 5 cross-examination.
 6 Re-examination by MR JOWELL
 7 MR JOWELL: Dr Padilla, it probably seems quite a long time
 8 ago, but towards the beginning of your
 9 cross-examination --- it is [draft] page 107, lines 17 to
 10 23 --- you were asked, in summary, about the ability of
 11 OEMs to shift their purchases or some of their purchases
 12 as between CDMA and UMTS and you recall that it was
 13 suggested that that was not contained in your reports.
 14 If I could ask you to go, please, to 289 of your fourth
 15 report, which is {POE/22/92}.
 16 A. Which paragraph?
 17 Q. 289. Could I invite you to read that paragraph and then
 18 make any additional comments you wish to make. (Pause)
 19 A. Well, it seems that I consider switching from CDMA to
 20 UMTS in my report, but my memory is imperfect.
 21 MR JOWELL: Thank you. I have no further questions.
 22 THE CHAIR: Thank you very much, Dr Padilla. That concludes
 23 your evidence.
 24 That concludes the evidence in the case, as
 25 I understand.

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1 Housekeeping
 2 MR JOWELL: Ma'am, it does.
 3 One small point on skeleton arguments, which are
 4 currently due for Monday —
 5 THE CHAIR: Closing submissions.
 6 MR JOWELL: Forgive me, closing submissions. The parties
 7 have a joint request, of which I am the mouthpiece,
 8 which is that they should be allowed to produce the
 9 closing submissions in an unredacted form in the morning
 10 and provide the confidential versions by close of
 11 business.
 12 THE CHAIR: Yes.
 13 MR JOWELL: If that is convenient to the Tribunal?
 14 THE CHAIR: That seems sensible.
 15 MR JOWELL: I am grateful.
 16 THE CHAIR: We are still working to 120 pages?
 17 MR JOWELL: We are.
 18 THE CHAIR: Formatting agreed with a table of contents.
 19 MR JOWELL: Yes, indeed.
 20 THE CHAIR: Please.
 21 MR TURNER: One area that has just confused me a little bit,
 22 and it may be my fault, but you have — Qualcomm have
 23 a section on extraterritoriality in the skeleton and in
 24 that you raise the fact that the agreements are governed
 25 by Californian law and that the leveraging of dominance

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1 took place outside the UK and that we should have regard
 2 to the position in the US and Korea. You mention that,
 3 but there are potentially other questions of applicable
 4 law which might or might not arise and it is just really
 5 to understand, when you get to your closing, where we
 6 are on those.
 7 We have had a discussion that FRAND requires
 8 a willing licensee and a willing licensor, FRAND
 9 negotiations, and we have talked about the UK
 10 authorities in relation to that. We have not however
 11 been addressed, I do not think, on whether the same
 12 principles apply in other jurisdictions, either whether
 13 that matters or whether we are working on the basis that
 14 we assume the law in those other jurisdictions is the
 15 same because no party has raised an alternative. That
 16 was one area.
 17 So just clarity on whether we have to — how we are
 18 dealing with that.
 19 The second thing was there has been quite a lot of
 20 discussion in the evidence and also in oral evidence
 21 about exhaustion of patent rights in the US. We have
 22 not been addressed — we have also been told that there
 23 was a developing area of law over the relevant period.
 24 We have not been addressed on what the US law is, was,
 25 how it developed and it may be that we do not need to be

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1 addressed on that, but, again, just if you could
 2 consider whether we need to worry about it or not or
 3 whether we just accept — it is common ground we just
 4 accept what the witnesses say on that.
 5 MR JOWELL: Yes, indeed, we will. You are not, I assume,
 6 asking for a response now but something to bear in mind?
 7 MR TURNER: No, just bear those in mind for the written
 8 closing submissions.
 9 MR JOWELL: Yes, indeed.
 10 THE CHAIR: Just going back on your request,
 11 Mr Jowell: close of business, could that be 4 o'clock?
 12 MR JOWELL: It will be 4 o'clock.
 13 THE CHAIR: All right. Just because of when the court staff
 14 leave.
 15 Also your redacted versions, just because you know
 16 that we have had problems reading some of the
 17 redacted — some of the sections that are redacted,
 18 please can all the redactions be in a pale colour so
 19 that we can actually read the text because we obviously
 20 have not replaced everything that is in our core
 21 bundles, but on the original versions it was just not
 22 possible to read properly under the redactions.
 23 MR JOWELL: We hear you loud and clear and respectfully
 24 agree.
 25 THE CHAIR: Yes. Thank you.

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1 MR WILLIAMS: In the interests of avoiding any further
 2 misunderstandings about formatting, Madam, when you
 3 refer to a table of contents, is that outside the
 4 allowance for pages?
 5 THE CHAIR: All right, yes.
 6 MR WILLIAMS: I am grateful.
 7 THE CHAIR: Are there any other questions?
 8 MR WILLIAMS: I cannot see there will not be any more
 9 questions when we start formatting the document, Madam,
 10 but I do not have any at the moment.
 11 THE CHAIR: Well, if you do have questions, you can send
 12 them to the court. Thank you very much.
 13 (4.31 pm)
 14 (The court adjourned until Friday, 31 October 2025)
 15
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