

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner,

v.

TELEFONAKTIEBOLAGET L M ERICSSON,
Patent Owner.

IPR2024-00728
Patent 7,151,430 B2

Record of Oral Hearing
Held: July 16, 2025

Before SHARON FENICK, STEVEN M. AMUNDSON, and
RUSSELL E. CASS, *Administrative Patent Judges*.

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IPR2024-00728
Patent 7,151,430 B2

The above-entitled matter came on for hearing on Wednesday, July 16, 2025, commencing at 1:00 p.m. EDT at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.

P R O C E E D I N G S

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(1:00 p.m.)

JUDGE CASS: This is the oral hearing for IPR 2024-00728, Intel Corporation v. Ericsson. I am Administrative Patent Judge Russell Cass, and with me on the panel today are Judges Fenick and Amundson.

First, could we have an identification from each side who is present? Petitioner's counsel, please proceed first.

MS. LAROCHELLE: Sure. Good afternoon. Christie Larochelle from Goodwin Procter on behalf of Petitioner Intel, and with me today is Lori Gordon, lead counsel on this matter, also from Goodwin Procter.

JUDGE CASS: Thank you. And for Patent Owner? Do we have Patent Owner's counsel on the line?

JUDGE AMUNDSON: It looks like Mr. Warr might be muted.

MR. WARR: I'm sorry. I had my mute button on. My apologies. Alistair Warr from FisherBroyles representing the patent owner, Ericsson, and with me is my law partner, Bryan Santarelli, who will also be participating in the argument.

JUDGE CASS: Thank you, counsel. So, in our hearing order, we stated that each party would have 60 minutes of time to present arguments. Since then, we have granted Patent Owner's request that Mr. Santarelli be permitted to argue pursuant to the office's Legal Experience and Advancement Program, also known as LEAP. Under the LEAP program, Patent Owner will be granted an additional 15 minutes of argument time for a total of 75 minutes.

1 As far as the order of presentation goes, Petitioner will proceed
2 first followed by Patent Owner's response. Petitioner may then use any
3 remaining time for rebuttal to respond to Patent Owner's presentation. And
4 then finally, Patent Owner may use any of its remaining time for surrebuttal,
5 responding to Petitioner's rebuttal arguments.

6 A few reminders before we begin. First of all, there is a public
7 line for this case. We're not aware of any confidential information that may
8 be discussed, but if that's not the case, please speak up. When you're
9 arguing, please speak slowly, and if you hear another voice, such as one of
10 the judges, either -- please stop so that we do not talk over each other.

11 If either party believes that the other party is presenting an
12 improper argument, such as a new argument that was not made in the party's
13 briefs, please raise that issue during your own presentation. Do not object at
14 the time and interrupt the other party's presentation. I will keep time and can
15 give you a warning when you've gone into your rebuttal time if you'd like.
16 I'll also let you know that we've received the party's demonstrative exhibits
17 and are able to view them on our screens.

18 To ensure that the transcript is clear and everyone can follow
19 along, please refer to your demonstratives by slide number.

20 Are there any questions from the parties?

21 MS. LAROCHELLE: No questions, Your Honor.

22 MR. WARR: None, Your Honor.

23 JUDGE CASS: All right. Well then, Counsel for Petitioner,
24 we'll start with you. Would you like to reserve time for rebuttal?

25 MS. LAROCHELLE: Yes. We'd like to reserve 15 minutes for
26 rebuttal.

1 JUDGE CASS: Okay. Let me get our clock set up, and you
2 may begin when you're ready.

3 MS. LAROCHELLE: Yes. Just share my demonstratives.
4 Okay. Thank you, Your Honor.

5 JUDGE CASS: I'm sorry. Are you sharing demonstratives or -
6 -

7 MS. LAROCHELLE: I am. Can you see them?

8 JUDGE CASS: The way our system is set up, it's a little hard
9 for me to see them, so -- but that's okay. I think the other judges may be
10 able to see them better than me. But if you could just call out the slides as
11 you're projecting them, that will work.

12 MS. LAROCHELLE: Yes. I'll be sure to call out by slide
13 member -- slide number. Thank you.

14 JUDGE CASS: Okay. Terrific. Okay.

15 MS. LAROCHELLE: May I proceed?

16 JUDGE CASS: All right. Please proceed.

17 MS. LAROCHELLE: Okay. So, good afternoon. Again, my
18 name is Christie Larochelle from Goodwin Procter on behalf of Petitioner,
19 and I'll be taking the first half of our argument and then my colleague, Ms.
20 Gordon, will take the second half.

21 So, turning to Slide 2, I'd like to start with just a brief overview
22 of the 430 Patent. Turning to Slide 3, the 430 Patent addresses the problem
23 of efficient circuit design and notes that there are problems in circuits with
24 mutual inductance coupling between circuit elements, specifically inductors.
25 The specification identifies challenges related to integrating multiple
26 inductors into a layout when they're in close proximity to one another. And

1 specifically, that problem is the problem of mutual inductance coupling
2 between the inductors in the layout.

3 The excerpted portion of the specification on the right notes that
4 various embodiments of the invention provide an inductor design and
5 method of implementing same where mutual EM coupling is reduced. So,
6 this is the problem that the 430 Patent seeks to address: How do you
7 efficiently design a circuit where you can put inductors close to each other
8 with reduced electromagnetic coupling between those inductors in the
9 layout?

10 Turning to Slide 4, there are two remaining --

11 JUDGE AMUNDSON: This is Judge Amundson. I just had a
12 question on the background.

13 MS. LAROCHELLE: Sure.

14 JUDGE AMUNDSON: And so, when the patent's talking
15 about these VCOs, these voltage controlled oscillators, is that something
16 that's used at the baseband or is that used for the modulation frequencies?

17 MS. LAROCHELLE: I'm not sure that -- I don't think the
18 specification addresses that. We'll -- we can look into that, but I'm not aware
19 of anything in the specification, but we can confirm.

20 JUDGE AMUNDSON: Okay. That's fine. I was just trying to
21 fit this in with kind of what I know about RF transceivers. Okay. Thank
22 you.

23 MS. LAROCHELLE: Understood. We'll see if we can
24 confirm, but to our knowledge, we don't think that the specification
25 addresses that specific question.

1 Okay. Moving on. We're on Slide 4. There are two remaining
2 challenged independent claims in this patent. Claim 1 is directed to an
3 inductor layout. It's an apparatus claim. And Claim 11 is a method claim
4 directed to a method of reducing mutual electromagnetic coupling between a
5 first and second inductor. And these claims have parallel limitations. Each
6 has a first inductor with a first loop, a second loop, and two closely spaced
7 terminals and a second inductor positioned at a distance from the first
8 inductor such that there is mutual -- reduced mutual electromagnetic
9 coupling between them.

10 Turning to Slide 5, I'd like to review just some basic physics
11 principles related to magnetic fields produced by current-carrying structures.
12 There's no dispute between the experts in this matter as to the basic physics
13 here and the physics of magnetic fields produced by current-carrying
14 structures. And the experts also agree that these principles apply to all
15 current-carrying structures no matter what you call them or what they're
16 used for.

17 However, many of the party's disputes do turn on the
18 application of these physics principles to the structures disclosed in the 430
19 Patent and the prior art. So, moving charges produce an electric field, and
20 current is just moving charge. And we can determine the direction of the
21 magnetic field produced by moving charges by using the right-hand rule.
22 So, you point your thumb in the direction of the current. Here, if we look at
23 the figure on the left here, this is Figure 22.14 from Serway, demonstrating
24 the right-hand rule. Current is traveling up in this long straight wire. You
25 point your thumb up in the direction of the current, and your fingers curl in
26 circles around the wire in the direction of the magnetic field.

1 Turning to Slide 6, you can also use the right-hand rule to
2 determine the direction of the magnetic field near a current-carrying loop.
3 So here, we have a circular loop and again, you point your thumb in the
4 direction of the current and your fingers wrap in circles and around the loop,
5 the wire, in the direction of the magnetic field. And this is shown in the
6 figure on the right where the circular loop is in the plane of the page, and
7 you can see the current is counterclockwise. And if you point your thumb in
8 the direction of the current, your fingers point out in the middle of the loop,
9 and that's shown with the dots and the circles in the center, and into the page
10 outside of the loop.

11 Turning to Slide 7, the 430 Patent discloses inductors that have
12 a figure 8 shape, like that shown in Figure 2 on the left here. And according
13 to the patent, the current travels in opposite directions in the lower loop of
14 the figure 8 from the upper loop. So here in Figure 2, we see the arrows
15 show current flowing clockwise in the bottom loop and counterclockwise in
16 the upper loop. And again, using the right-hand rule, we can determine that
17 the direction of the magnetic field produced by the current flowing in the
18 lower loop is into the page in the center of that loop, and the upper loop has
19 a magnetic field that is out of the page in the center of the upper loop. And
20 so, as the patent notes, the electromagnetic field components emanating a
21 certain distance from these substantially symmetric upper and lower loops
22 have opposite directions and tend to counteract or cancel each other.

23 Turning to Slide 8, after the petition was filed, Patent Owner
24 filed a -- disclaimed Claim 20 of the patent. And Claim 20 is directed
25 simply to a single inductor with a reduced far field, having a first loop, a
26 second loop, and two closely spaced terminals. And that is precisely what

1 Figure 2 shows, the figure 8 with the two loops and the closely spaced
2 terminals.

3 Turning to Slide 9, Claims 1 and 11 are directed to a first
4 inductor and a second inductor, and the subject matter of disclaimed Claim
5 20 is the first inductor -- the first loop, second loop, and two closely spaced
6 terminals. So, what Claims 1 and 11 add to that disclaimed Claim 20 is the
7 second inductor positioned a predetermined distance away and having
8 reduced mutual electromagnetic coupling.

9 Turning to Slide 10, the 430 patent recognizes that these 8-
10 shaped structures have a reduced far field. And it even notes in this passage
11 on the right on Slide 10, each individual inductor has a reduced far field by
12 virtue of the 8-shaped inductor coil. And so, what this recognizes is, it is the
13 simple fact that this is a symmetric 8-shaped inductor that produces or
14 causes the reduced far field. And the 430 patent leverages this fact, that the
15 8-shaped inductors have a reduced far field, to provide inductor layouts that
16 use 8-shaped inductors and have reduced mutual electromagnetic coupling
17 between those inductors.

18 Turning to Slide 11, the inductor layout disclosed in the 430
19 patent contemplates that the second inductor can be either an O or a
20 rectangular shape, or it can be a rotated 8-shape.

21 And turning to Slide 13, to frame the discussion today, I want
22 to talk just briefly about the prior art that forms the basis for Petitioner's
23 grounds. Petitioner relies on two primary prior art references, Taniguchi and
24 Midya, each of which disclose a multiloop first antenna or inductor
25 combined in a layout with a second antenna or inductor. And these
26 references are then combined in the other grounds with additional references

1 that disclose specific limitations, such as forming inductors on a
2 semiconductor die or closely spaced terminals.

3 Turning to Slide 14, Petitioner's Ground 1 is based on
4 Taniguchi. And Taniguchi is directed to a radio frequency identification
5 system that has a reader system comprised of two antennas, and as we'll
6 discuss later, antennas are inductors. And Taniguchi identified a problem
7 with these RFID systems. If you have a reader system that has a single
8 antenna, and maybe it's an 8-shaped antenna as we can see in the Taniguchi
9 figures, there are certain locations and orientations for the tags that
10 inductively couple with the antenna where the inductive coupling is better or
11 worse. And then if you have a different shaped antenna, maybe an O-shape
12 or rectangular, that antenna will then couple in a different way with these
13 tags so that, you know, in certain orientations or locations, you have good
14 coupling, and in other locations and orientations, you have less good
15 coupling.

16 And so, Taniguchi recognizes this problem and says, well, if we
17 can combine two antennas together in a layout, we can get better coverage
18 for the inductive coupling with the tags. And so, what Taniguchi sought to
19 do is to develop a layout for these antennas where you could put them very
20 close together, but also have reduced mutual coupling between them.

21 So, turning to Slide 15 --

22 JUDGE CASS: So, Counsel, this is Judge Cass. So, is the idea
23 that you want to balance -- make the electromagnetic field more uniform?
24 So, in other words, you don't have peaks in some areas and valleys in others
25 so that, you know, you might be giving too much power to one tag and not
26 enough power to another?

1 MS. LAROCHELLE: Yeah. And it -- yes.

2 JUDGE CASS: Okay.

3 MS. LAROCHELLE: I -- yes. That is the -- that is one of the
4 goals, is to provide a more uniform area over which you can get better
5 coupling with the tags, regardless of what position or orientation they're in.

6 JUDGE CASS: And I think you'll get to this later, but, you
7 know, one of the issues involved is whether Taniguchi, as well as, some of
8 the other references are analogous art. And so, looking at the 430 patent that
9 talks about integrating or using inductors in an RF transceiver, and then
10 Taniguchi is talking about antennas in this other kind of device. How
11 similar are those devices and applications? Is the RF transceiver different?
12 You know, how should we look at those two applications? And I guess
13 more than the applications, you know, how kind of structurally does this
14 differ in terms of how the inductors would be used in the 430 patent versus
15 the antennas in Taniguchi?

16 MS. LAROCHELLE: Okay. So, the first thing I would say is
17 that the 430 patent is not limited to radio frequency. And let me get my
18 copy of the patent. I can direct you to Column 3, Line 32, where it says,
19 although various embodiments of the invention are described herein, mainly
20 with respect to VCO-related isolation issues, RF amplifiers and mixers with
21 tuned LC loads or inductive degeneration may also couple to each other.
22 And it goes on and -- to say that the inductor design and method may be
23 used to reduce coupling between two functional blocks of any type as long
24 as each contains one or more inductors.

25 So, that's my -- the first point I want to make is that the 430
26 patent is not so limited. And the other point I wanted to make is that if we

1 look at the claims of the 430 patent, they're simply directed to inductor
2 layouts, and they're directed to specific inductor layouts in which you can
3 put those inductors close together and reduce coupling. And that's exactly
4 what Taniguchi seeks to do; put the antennas close together so that there's
5 reduced coupling.

6 And so, from that perspective, these systems are very similar in
7 terms of the problem that they each try to solve.

8 JUDGE CASS: Thank you, Counsel.

9 MS. LAROCHELLE: Oh, also -- I'm sorry. Did you have
10 another question?

11 JUDGE CASS: No, no. Go ahead.

12 MS. LAROCHELLE: Okay. The other point I wanted to
13 make, that I'll get to in a few minutes, is that as we've established in our
14 papers, loop antennas are inductors. They function -- they have inductance
15 and they function as inductor-type elements in circuits, okay?

16 JUDGE CASS: Thank you.

17 MS. LAROCHELLE: Thank you.

18 So, turning back to Slide 15. So, in Taniguchi's inductor layout,
19 one of the antennas shown on the right is 8-shaped, just like the 8-shaped
20 inductor of the 430 patent, which is shown on the left. And just like the 8-
21 shaped inductor of the 430 patent, Taniguchi's 8-shaped inductor has a first
22 and second loop and two closely spaced terminals, again which is covered
23 by the limitations of now disclaimed Claim 20.

24 And turning to Slide 16. Like the 430 patent, Taniguchi
25 leverages this property of an 8-shaped antenna that property that the far field

1 is reduced, to provide layouts of multiple antennas to antennas in which
2 there's reduced mutual electromagnetic coupling.

3 And so, Taniguchi discloses embodiments with an 8-shaped
4 first inductor antenna and an O-shaped or rectangular shaped second
5 antenna. And that would be Taniguchi's Figure 7B, 8B, D, and E as shown
6 here on Slide 16.

7 And then on Slide 17, Taniguchi also discloses layouts with a
8 first 8-shaped antenna and a second 8-shaped but rotated antenna in the
9 layout as shown in Figures 9, 10B, D, and E here on Figures -- or on Slide
10 17.

11 So, turning to Slide 18, Petitioner's Ground 2 combines
12 Taniguchi's antenna layout with Rostoker's teachings regarding
13 implementing loop antenna layouts on integrated circuit chips for the claims
14 that require the inductor layout to be implemented on a semiconductor die.

15 Turning to Slide 19, Petitioner's Ground 3 uses Midya as the
16 primary reference in combination with Raghavan. And Midya discloses
17 inductor layouts with multiloop antenna -- inductors. Midya's inductors are
18 arranged to provide total cancellation of a magnetic field on certain axes,
19 here, maybe be the X and Y axes, and to maximize the overall cancellation
20 of the magnetic field. And Midya's inductor layout, the second inductor can
21 be concentrically above or laterally displaced from the first inductor.

22 Turning to Slide 20, Raghavan discloses a symmetric inductor
23 used on integrated circuit chips.

24 And turning to Slide 21, Petitioner's Ground 4 adds Gardner to
25 the Midya-Raghavan combination for the only claim that expressly requires
26 the inductor layout be implemented on a semiconductor die. And this is

1 because Gardner discloses an inductor for integrated circuits and IC
2 packages.

3 And then lastly, Petitioner's Grounds 5 through 8 expressly
4 combine the art from Grounds 1 through 4 with the Brooks reference for the
5 teaching that closely spaced terminals, minimize the magnetic field
6 contributions from those terminals.

7 So, turning to Slide 23, there are a number of disputed issues
8 remaining between the parties. I'll address the first three issues. And then
9 my colleague, Ms. Gordon, will come to the podium and address issues 4
10 through 7.

11 Turning to Slide 25, I'd like to turn to the first disputed issue on
12 our list. And this is what Your Honor previewed, the dispute about
13 analogous art. The petition establishes that all of Petitioner's prior art
14 references used in the grounds are analogous art to the 430 patent. And
15 based on the papers, Patent Owner disputes at least whether Taniguchi and
16 Rostoker are analogous art. And it's a little unclear from the briefing,
17 whether Patent Owner disputes whether the other prior art references are
18 analogous art or whether the dispute is about motivation to combine. But
19 regardless, as I said, Petitioner established in the petition that each and every
20 reference used in Petitioner's grounds is analogous to the 430 patent.

21 So, there are two tests for analogous art. Only one of the tests
22 needs to be met. And here, Petitioner's art meets both tests.

23 The first test asks whether the reference is from the same field
24 of endeavor as the challenged patent. And here, as I already hinted and I'll
25 talk more about in a few moments, the 430 patent's field of endeavor is
26 inductor design, and Petitioner's references are also in this field.

1 The second test asks whether the reference is reasonably
2 pertinent to the particular problem with which the inventor is involved. And
3 here, as I already discussed, the 430 patent addresses the problem of
4 efficient circuit design, and Petitioner's preferences, as we established in the
5 petition, are reasonably pertinent to this problem.

6 Turning to Slide 27 and the first analogous art test, the 430
7 patent's field of endeavor is inductor design. And in the initial
8 determination, the panel noted that it preliminarily agreed based on the
9 record at that time. In contrast, Patent Owner argues that the field of
10 endeavor should be limited to inductor design for semiconductors or
11 integrated circuits, but this is not supported by the disclosures of the 430
12 patent.

13 Turning to Slide 28, the 430 patent describes the invention
14 broadly, and neither the specification nor the claims expressly limit the
15 invention to implementations of an inductor layout in -- on an integrated
16 circuit or semiconductors. For example, the passage on the left from
17 Column 3 is from the section titled, Descriptions of Illustrative
18 Embodiments. And the patent states various embodiments of the invention
19 provide an inductor design and method of implementing same where mutual
20 EM coupling is reduced.

21 So, in other words, this is the focus of the patent, is how can I
22 put inductors together, close together, in a layout and reduce mutual
23 electromagnetic coupling between them and not specifically limited to
24 implementations on semiconductors or integrated circuits?

25 Turning to Slide 29, there are three -- there were three
26 independent claims in the 430 patent. Claim 20 is now disclaimed. But

1 Claim 20 is directed to an inductor having a reduced far field, no mention of
2 a semiconductor die. And Claim 1 is directed to an inductor layout with
3 reduced mutual electromagnetic coupling. Again, no mention of a
4 semiconductor die or an integrated circuit. Turning to slide 30, Independent
5 Claim 11 is the only independent claim in the patent that uses the phrase
6 “semiconductor die.” And it does so in the preamble in a non-limiting
7 manner, as I'll discuss in a few minutes.

8 Turning to Slide 31, so aside from that non-limiting use in
9 Claim 11, there's only one claim in the entire patent that includes a limitation
10 directed to a semiconductor die, and that's Dependent Claim 2, which
11 requires that the first and second inductor be formed on a single
12 semiconductor die.

13 So, turning to Slide 32, in arguing that Taniguchi and Rostoker
14 are not analogous and not from the same field of endeavor, Patent Owner
15 argues that because they're directed to loop antennas, then they're not
16 relevant to or not directed to inductor design. And again, the patent and the
17 general knowledge of a POSITA do not support this argument.

18 Turning to Slide 33, there's no dispute Taniguchi and Rostoker
19 disclose loop antennas, as we see in the embodiments shown on Slide 33.

20 Turning to Slide 34, Taniguchi makes clear that its loop
21 antennas function as inductors. The whole purpose of Taniguchi's system is
22 to inductively couple with the tags in the RFID system and to reduce mutual
23 inductive coupling between the antennas and the reader system. And so,
24 what Taniguchi makes clear is that these antennas have inductance, they
25 function as inductors, and they function through inductive coupling.

1 Turning to Slide 35, the Finkenzeller reference that we cited in
2 our petition confirms that a POSITA would understand that loop antennas
3 are inductors. And so, what -- Finkenzeller is an RFID handbook talks about
4 antennas used in RFID systems, and it explains that any current-carrying
5 conductor generates a magnetic field, and if you bring a second conducting
6 loop near the first conductor that a current will be induced in that second
7 loop. And that is the property of inductance, is this induced current.

8 And so, mutual inductance is when you have these two loops
9 that interfere with each other by inducing currents in each other by virtue of
10 the fact that there's these magnetic fields produced by moving charges. And
11 Finkenzeller confirms that this is true for all conductors in the shape of a
12 loop.

13 And in our papers, we cited -- was there a question? Sorry, I
14 thought I heard something.

15 In our papers, we cited a substantial amount of extrinsic
16 evidence that confirms that a POSITA would've understood that antennas,
17 loop antennas, are inductors. And this is just one example. The patent to
18 Koo describes an inductive antenna and says, in one of the claims said
19 inductor is an antenna.

20 And turning to Slide 37, when pressed at deposition, Patent
21 Owner's expert, Dr. Prucnal, agreed that loop antennas and inductors have
22 the same physics. And I'll just direct the Board to our papers for substantial
23 additional extrinsic evidence that confirms that loop antennas are recognized
24 as inductors. And in fact, in the initial -- or, I'm sorry, in the institution
25 decision, the panel determined that Petitioner sufficiently shows that the
26 electromagnetic field created by a structure is not dependent upon it being

1 labeled as an antenna or an inductor. And the patent owner has added
2 nothing in the papers to indicate that this determination -- preliminary
3 determination was an error.

4 JUDGE FENICK: Ms. Larochelle, this is Judge Fenick. It
5 seems to me like a difference between the 430 patent and Taniguchi is that
6 Taniguchi is an RFID system. So, it wants the magnetic emanations from
7 the antennas to be -- to kind of reach out in order to read the tags. Whereas
8 the 430 patent talks about reducing the magnetic field kind of entirely from
9 the loops. Is that a distinction that we should be concerned with?

10 MS. LAROCHELLE: I don't think that's a distinction we
11 should be concerned with because the primary goal of Taniguchi is the same
12 as the goal of the 430 patent, which is, can I put these two antennas close
13 together without the mutual electromagnetic coupling between them. And
14 that's the key from Taniguchi. And it's the same goal achieved by or sought
15 to be achieved by the 430 patent.

16 JUDGE FENICK: Thank you.

17 MS. LAROCHELLE: Thank you, Your Honor. Turning to
18 Slide 42, there's no dispute that Midya-Raghavan and Gardner disclose
19 inductors. The -- turning to 43, the dispute as to Midya-Raghavan and
20 Gardner appears to be related to the motivation to combine because Midya
21 discloses inductors on printed circuit boards or PCBs, whereas Raghavan
22 and Gardner disclose inductors on integrated circuits. So, to the extent the
23 dispute is about motivation to combine, my colleague, Ms. Gordon will
24 address that when we get to the specific rounds in a few minutes.

25 Turning to Slide 45 in the second test for analogous art. As I
26 explained in the background of the 430 patent and as we've discussed

1 throughout questioning here, the 430 patent addresses the problem of
2 efficient circuit design, meaning how do I put these two inductors in very
3 close proximity to one another while reducing the mutual electromagnetic
4 coupling between them. And turning to Slide 46. This is the same thing that
5 Taniguchi strives to achieve. Taniguchi notes the difficulty in arranging
6 antennas in an overlapping manner. Put them very -- it's hard to put them
7 close together because you get mutual inductance coupling between them.

8 And so, as Taniguchi states in Paragraph 14, a primary object of
9 the invention is to provide a radio guidance antenna in which the sum of
10 mutual inductances of the antennas is small. And again, that's the same
11 thing that the 430 patent addresses. How do I put these inductors close
12 together while also maintaining reduced mutual inductance coupling
13 between them?

14 JUDGE AMUNDSON: This is Judge Amundson. I had a
15 question just to -- on that. And if we could look at your Slide 17.

16 Right. And if we could focus on the illustration on the right
17 with figures 10B, 10D, and 10E from Taniguchi. So if I understand this,
18 correct me -- if I understand this correctly and correct me if I'm wrong, the
19 two inductors that are close together in Taniguchi are what you have
20 highlighted in red and yellow; is that it?

21 MS. LAROCHELLE: That's correct.

22 JUDGE AMUNDSON: And so, the problem concerns those
23 two, whatever loops or antennas, and we don't really need to worry about the
24 tags; is that it?

25 MS. LAROCHELLE: That's our position, yes. Yes.

26 JUDGE AMUNDSON: Oh, okay. I got it. Thank you.

1 MS. LAROCHELLE: You're welcome. Okay. So, turning
2 now to Slide 48. So, in the petition, we rely on the layout. As we were just
3 discussing, what we're relying on is the layout of the two reader antennas.
4 We're not relying on the tags. And so Patent Owner mischaracterizes what
5 we focus on by saying in the POR, Taniguchi focuses on solving the
6 problem of too little mutual magnetic coupling between antennas for large
7 radio guidance antennas and tags for retail anti-theft systems.

8 But as Your Honor just noted, what we're really focused on is
9 not the antennas of the reader system and the tags. Taniguchi is focused on,
10 how do I put those antennas close together and reduce the mutual
11 electromagnetic coupling between them. And that's what we rely on in the
12 petition for our Taniguchi grounds is the two antennas. We don't rely on the
13 tags in our grounds.

14 Now, unless there are questions about analogous art, I'd like to
15 move to our claim construction dispute. So, turning to Slide 49, the claim
16 construction dispute only relates to Claim 11 and its dependents. And while
17 Petitioner maintains that the preamble is not limiting as to a -- on a
18 semiconductor die, Petitioner has alternate grounds, Grounds, 2, 4, 6, and 8
19 that render Claim 11 obvious, even if the preamble is determined to be
20 limiting. And I also want to note that this dispute doesn't affect the
21 analogous art issue, because as we discussed, Claim 1 is not limited to
22 inductors on a semiconductor die.

23 So, turning to Slide 50. We can see looking at Claim 11, that
24 semiconductor die appears a single time in this claim in the preamble. It
25 doesn't provide an antecedent basis for any other claim limitation. You can
26 read the preamble without, on a semiconductor die, and it makes sense,

1 grammatically complete. The claim body recites a complete structure. You
2 can see that by comparing 11 with the parallel apparatus, Claim 1.
3 Semiconductor die doesn't recite essential structure or steps and merely
4 describes a purpose or intended use.

5 Now, a claims preamble generally isn't limiting except under
6 certain specific circumstances, and the Federal Circuit guideposts for when a
7 preamble is limiting are generally encompassed by the points I just made.
8 And none of these points apply here. And turning to Slide 51. This isn't the
9 first tribunal to consider the issue of whether the preamble of Claim 11 is
10 limiting as to a semiconductor die. And in fact, the ITC and the 1376
11 investigation concluded that it is not limiting as to semiconductor die. And
12 in the interest of time, unless the board has questions about claim
13 construction, I'm going to turn things over to my colleague, Ms. Gordon, to
14 talk about our grants.

15 MS. GORDON: Good afternoon, Your Honors.

16 JUDGE CASS: And, Counsel?

17 MS. GORDON: Yes.

18 JUDGE CASS: Just so you know, you have about 13 minutes
19 before you go into your rebuttal time.

20 MS. GORDON: Okay. Great. Thank you. So, I'm going to be
21 addressing the specific disputes on the grounds, and I'd like to start with the
22 Taniguchi ground. And as Ms. Larochelle explained, Taniguchi describes an
23 antenna system comprised of two inductors. One, an 8-shaped inductor, and
24 a second inductor, which can be either rectangular or 8-shaped that's
25 positioned a specific distance relative to the first inductor. And is critically
26 important to Taniguchi that these two inductors or antennas do not interfere

1 electromagnetically with each other, so that they can maximize the read area
2 for its system.

3 Now, turning to Slide 61. Patent Owner contends that
4 Taniguchi fails to disclose several limitations. And I'd like to start with
5 Patent Owner's contentions related to the reduced field limitations, and the
6 reduced electromagnetic coupling limitations. And central to these
7 arguments, is Patent Owner's contention that its claims require the centers of
8 the two inductors to be laterally separated. And this is simply not the case.

9 So, let's start first by looking at what the claims recite, turning
10 to Slide 62. The claims recite a first inductor having a reduced far field.
11 And the claims in the last limitation recite that, the mutual electromagnetic
12 coupling between the first inductor and the second inductor, which are
13 positioned at a predetermined distance from each other is reduced as a result
14 of the first inductor's reduced electromagnetic fields. What you do not see
15 anywhere in the claims is a recitation or a requirement of a lateral distance
16 or lateral spacing for either the far field limitations or the electromagnetic
17 coupling limitations.

18 Turning to Slide 63 and patent -- the 430 patent's discussion of
19 far field and its relationship to electromagnetic coupling. The specification
20 repeatedly states, as we see from the excerpts on this demonstrative that, the
21 substantially symmetric shape of the first inductor reduces the
22 electromagnetic field. And this is the basic physics that Ms. Larochelle was
23 talking about. The 430 patent also explains that when you have a reduced
24 electromagnetic field, it in turn reduces electromagnetic coupling. Less
25 field, less coupling. That is cause and effect. That is what we're dealing
26 with in the 430 patent.

1 Turning to Slide 64. And Patent Owner echoed these basic
2 principles of physics and its representations to the European examiner
3 during prosecution of the foreign counterpart. The applicant definitively
4 stated that the reduction of electromagnetic coupling in its specification was,
5 quote, a technical effect of the shape of the first inductor. And Applicant
6 went on to say, quote, no particular distance between the two inductors is
7 mandated in the description.

8 That is, Applicant recognizes that when you reduce the
9 electromagnetic field by virtue of the shape of the symmetric inductor, it
10 reduces coupling regardless of where that second structure is positioned or
11 its shape.

12 Turning to Slide 74. Patent Owner's primary argument in these
13 proceedings is tied to the simulation results that were presented in the
14 specification. But the specification makes clear, these are merely exemplary.
15 They use exemplary offsets and exemplary distances and exemplary layouts.
16 Nowhere does the specification indicate these simulations are intended in
17 any way to be limiting. So, in summary, there's no support in the
18 specification, no support in these claims, and no support in the prosecution
19 history for Patent Owner's narrowing.

20 So, I'd like to turn back to Slide 65. Now, the ITC in a --
21 proceeding 1300, addressed the construction of reduced far field and
22 determine that it is essentially reducing the electromagnetic field at a certain
23 distance from the first inductor where the second inductor is positioned, and
24 Patent Owner adopted this construction in this proceeding. What you don't
25 see anywhere in this construction is a requirement of a lateral spacing.

1 Turning to Slide 66. And Taniguchi discloses these limitations
2 to the same extent as disclosed in the 430 patent and under the ITC
3 construction. Taniguchi has an 8-shaped antenna. Its loops generate equal
4 and opposite fields that cancel and reduce the field emanating from the 8-
5 shape. Taniguchi in Slide 67 repeatedly states that, by virtue of this figure
6 8-shape, the first antenna has reduced electromagnetic field. And in fact,
7 there's no dispute between the experts on this point as there can't be, because
8 this is, again, a matter of basic physics that an 8-shaped inductor or antenna
9 generates equal and opposite fields that cancel and reduce the
10 electromagnetic field.

11 Turning to Slide 70. And this reduction occurs at any distance
12 from the inductor. So, petition established, one, that Taniguchi's second
13 inductor antenna is placed at a certain distance away from the first, and that
14 the electromagnetic field is reduced at this distance. Turning to Slide 75.
15 The petition further established that Taniguchi's antenna layout has reduced
16 electromagnetic coupling between the first and second antennas. And as I
17 stress, this is critical to Taniguchi's design that the first and second inductor
18 antennas do not interfere electromagnetically with one another. Taniguchi
19 explains specifically that the equal and opposite fields generated by its 8-
20 shaped inductor result in a reduced field, which in turn results in a reduced
21 electromagnetic coupling between the two structures.

22 Turning to Slide 76. In fact, there doesn't actually appear to be
23 a dispute here in this case that Taniguchi discloses reduced electromagnetic
24 coupling. You see throughout Patent Owner's briefing that they've
25 acknowledged that Taniguchi teaches reduced EM coupling. The patent
26 owner's sole complaint appears to be that this EM coupling reduction in

1 Taniguchi is achieved by a separation along the Z axis with concentric
2 antennas instead of a lateral separation. And as we explained in our papers
3 and I discussed here today, the claims do not preclude a Z axis separation
4 and Taniguchi renders the claims obvious.

5 Now, I'd like to quickly touch on the closely-spaced terminals
6 limitation we see on Slide 77. And again, important to start at what the 430
7 patent tells us about this limitation. The 430 patent describes a prior art
8 inductor where the terminals were spaced at a distance wider than the loop
9 width. When describing its inductor, we see in figure 2, it says, the
10 terminals are placed as close to each other as possible. And we see in figure
11 2 that that separation is less than the width of the inductor loop.

12 Turning to Slide 81. This is again a term that was raised in a
13 ITC litigation. And Patent Owner proposed a construction that this term
14 means two terminals in proximity to each other such that the electromagnetic
15 field at a certain distance from the first inductor where the second inductor is
16 placed is reduced. In other words, the terminals are placed in proximity to
17 each other so that their fields do not interfere with the first inductor's
18 reduced field.

19 And that's exactly what we see in Taniguchi if we turn to Slide
20 83. Its closely spaced terminals meet the plain meaning and the ITC
21 constructions. They're less than the width of the antenna loops, just like the
22 terminals in the 430 patent. And as a matter of basic physics, again, because
23 these terminals are close together and carry a signal, and its return, they
24 create equal and opposite fields which cancel. And we've provided extrinsic
25 evidence demonstrating this property. And in fact, both experts again agree
26 that when you place terminals close to one another, the electric fields cancel,

1 and therefore do not have an impact on the cancellation of the inductor as a
2 whole.

3 Turning to slide --

4 JUDGE FENICK: Pardon me.

5 MS. GORDON: Yes, Your Honor.

6 JUDGE FENICK: This is Judge Fenick. I'm just trying to look
7 for where -- I see the figures of -- on your Slide 78, I see the figures of the
8 prior art versus the figure 8 from Claim 20. Is there anywhere else you're
9 getting the idea that closely spaced means closer than the loop? Or is it just
10 kind of from these pictures? I don't see it in the ITC construction --

11 MS. GORDON: Right. Yeah. So, there's a -- several places
12 we get this. We get this, again, if we look at the Japanese prosecution
13 statements by the patent owner, they -- to overcome a prior art reference,
14 they stress that the terminals are placed at an interval that is greater than the
15 width of the loop in the prior art. And that's the exact opposite of the
16 invention. We see this on our Slide 79. When we look at the discussion in
17 the ITC's claim construction brief, you can see that they rely on Figure 1 and
18 Figure 2 in the same way that we've discussed it.

19 So, it's statements from the applicant in Japanese prosecution
20 and the discussion in the ITC construction decision that tie it to this width.
21 We also know from, again, the physics that we've provided the extrinsic
22 evidence from Brooks, that when you place two lines with, again, a signal
23 and its return, equal and opposite, they cancel each other out. So, the closer
24 you get, the better cancellation you have. So, we have extrinsic evidence,
25 and our expert has explained, in both his opening and rebuttal briefs, this

1 concept. And in fact, Patent Owner's expert admitted at deposition when
2 pressed that this is in fact the case.

3 JUDGE FENICK: That doesn't have anything to do with the
4 size of the loop, right? That's just closer together as a -- you want them
5 close together in some way? That doesn't -- it's not relative to something
6 else?

7 MS. GORDON: That is correct, but you know, in general, it is
8 less than the size of the loop as the patent -- as Petitioner -- as the patent
9 owner set forth in the Japanese prosecution and as discussed in the ITC
10 litigation and in its specification when it was distinguishing over the prior
11 art.

12 JUDGE FENICK: Okay. Thank you.

13 MS. GORDON: Okay. Thank you.

14 JUDGE AMUNDSON: This is Judge Amundson. On that
15 point, I'm looking at Slide 81 and the ITC's adopted construction. That to
16 me doesn't seem to really narrow the claim at all. It seems like a functional
17 description as long as everything else works, then it's closely spaced. Do I
18 have that right or what?

19 MS. GORDON: Yeah, Your Honor. I think you have that
20 right. I think the intent of the construction and perhaps Patent Owner can
21 address this in their presentation, is that the -- they're close together such that
22 it is not going to disrupt the balance of the fields for the inductor. But the
23 specification also provides no insight into how close this is. So there really
24 isn't any guidance in the specification on this point on how close the -- this
25 closely spaced needs to be.

26 JUDGE AMUNDSON: All right. Thank you.

1 MS. GORDON: Okay.

2 JUDGE CASS: Yes. I just want to let you know you're starting
3 to go into your rebuttal time.

4 MS. GORDON: Okay. Okay. So, Your Honors, I'd like to
5 jump to Slide 90 quickly and talk about the combination of Taniguchi and
6 Rostoker. And Ms. Larochelle explained the combination earlier in her
7 presentation. And on Slide 91, Petitioner provided multiple motivations to
8 combine Taniguchi and Rostoker, explaining that Taniguchi suggests these
9 small form factor devices. And we provided multiple extrinsic evidence
10 sources that describe antenna systems like that of Taniguchi on a single
11 semiconductor die. We also explained that Rostoker, that we see on 94,
12 suggests the combination. In Slide 97, Patent Owner's primary motivation to
13 combine argument is that --

14 JUDGE CASS: Also, this is Judge Cass.

15 MS. GORDON: Yes.

16 JUDGE CASS: Can I ask you a question? So, if you go to
17 Slide 90.

18 MS. GORDON: Yes.

19 JUDGE CASS: What we -- the figure on the right, is that
20 depicting the combination? Could you, kind of, explain in more detail what
21 that figure is showing?

22 MS. GORDON: Yeah, Your Honor. So, there's multiple
23 different combinations because Taniguchi has different embodiments. So,
24 remember that Taniguchi has two embodiments where the antennas and
25 inductors are on different layers of the structure. And that's what we see on
26 the left is taking those two embodiments and combining with Rostoker's

1 disclosure of putting two antennas on different layers within the
2 semiconductors. So, the pictures on the left are the combination with
3 Taniguchi's two embodiments where you have the stacked inductors.

4 Now, Taniguchi also has an embodiment where the inductors
5 are on the same plane, right. Where they're just separated by the distances
6 between their edges. So, they're on the same plane. So, what you see in the
7 figure on the right is the combination where they're in the same plane where
8 they're on the same layer of Taniguchi. So, both figures are illustrating the
9 combination, but for the different embodiments of Taniguchi.

10 JUDGE CASS: So, the figure on the left is supposed to be the
11 combination as well?

12 MS. GORDON: Yes.

13 JUDGE CASS: That I'm having a little trouble visualizing.

14 MS. GORDON: Yeah. Okay. Yeah. Let me step through
15 because this is -- it's very important. So, in Taniguchi, we have the systems
16 that are separated by the distance or the width of the layer, right? The -- in
17 this case, it was a --

18 JUDGE CASS: Right.

19 MS. GORDON: Right? So, we have one on the top and one on
20 the bottom. So, in the top, we're dealing with figure 8D embodiment, which
21 is a figure 8 antenna and a rotated figure 8 antenna. And what we see on the
22 left side is on the top left figure on the right-hand side is Rostoker where
23 Rostoker has an embodiment where its antennas are placed at different
24 layers in the semiconductor. And so that's analogous to Taniguchi's
25 disclosures where the conductors are at different layers of the structure.

1 So, Rostoker, on the left, we see the combination with Rostoker
2 placing the two inductors at different layers within Rostoker's semiconductor
3 die. Now, Taniguchi also --

4 JUDGE CASS: The point of that being that in this
5 combination, the -- since Rostoker is all on the same IC chip, that in the
6 combination, you'd have something that looks kind of like, you'd have -- in -
7 - antennas on different layers, like in Taniguchi, but they would be on the
8 same chip as in Rostoker?

9 MS. GORDON: Yes. Right. So you can --

10 JUDGE CASS: And they could be different layers on the same
11 chip, but I -- the key point I take it is that they're on the same IC chip.

12 MS. GORDON: Exactly. Exactly.

13 JUDGE CASS: Is that right?

14 MS. GORDON: Yeah. So a semiconductor die has different
15 layers, right? And you can put components in the different layers. It's all
16 about, you know, compressing as many components as you can on these
17 chips, right? So, it has different layers. So exactly what you're saying, Your
18 Honor, is that Taniguchi has it on different layers. And in the combination
19 we see on the left of this slide is in Rostoker in different layers of the
20 semiconductor chip. And on the right figure is when the two inductors are in
21 the same plane. You can put that on the same layer in Rostoker's
22 semiconductor die.

23 JUDGE CASS: Thank you.

24 MS. GORDON: Okay. Okay. So --

25 JUDGE CASS: And you have about five minutes left in your
26 rebuttal time.

1 MS. GORDON: Okay. Okay. So, Your Honors, so I would
2 like to save the last five minutes for rebuttal, but I would like to entertain
3 any questions you may have for me about any of our arguments. If there's
4 any questions about Taniguchi and Rostoker or Midya and Raghavan, I
5 would ask the board to ask them. And if not, we'll reserve the remaining
6 time for rebuttal.

7 JUDGE CASS: Okay. Thank you. And I'm sorry, I misread
8 my clock. You actually have about ten minutes left, not five.

9 MS. GORDON: Okay. Okay.

10 JUDGE CASS: Five minutes of your rebuttal has elapsed,
11 meaning you have ten minutes left, I apologize.

12 MS. GORDON: All right. Well, I appreciate that, but I still
13 make the offer. So, if you have any specific questions on the grounds that
14 you would like me to address, I will address them now. If not, I'll reserve
15 the remaining time for rebuttal.

16 JUDGE CASS: All right. I don't have any questions at this
17 time. It doesn't look like neither Judge Amundson nor Judge Fenick has any
18 either. So, thank you very much, and we will look forward to hearing from
19 you on rebuttal.

20 MS. GORDON: Thank you.

21 JUDGE CASS: All right. Counsel for Patent Owner.

22 MR. WARR: Thank you, Your Honor. Do Your Honors --

23 JUDGE CASS: And first let me ask: Would you like to --
24 sorry. Would you like to reserve time for rebuttal?

25 MR. WARR: We'd like to reserve ten minutes for rebuttal,
26 Your Honor. And do Your Honors have a preference as to whether I share

1 the screen with the patent owner's demonstrative exhibits, or just talk to
2 them -- talk you through them?

3 JUDGE CASS: As long as you call out the slides, I don't have
4 a preference.

5 MR. WARR: Okay. Okay. Thank you.

6 JUDGE CASS: We'll give you just a moment --

7 JUDGE FENICK: I apologize.

8 JUDGE CASS: I -- I'm sorry.

9 JUDGE FENICK: Oh, sorry. Before we start, I'd like to ask
10 Petitioner's Counsel to stay on cameras because we need to know that you're
11 connected. And if you fall off, that we can interrupt the proceedings.

12 Thank you.

13 JUDGE CASS: Okay --

14 MR. WARR: Thank you. May it please the -- may it please,
15 Your Honors --

16 JUDGE CASS: All right. You may begin.

17 MR. WARR: Okay. Thank you, Your Honor. I'm going to
18 tackle part of the argument and discuss the preamble limitations, the
19 analogous art and motivation to combine arguments. Then I'm going to turn
20 the microphone over to my partner, Bryan Santarelli, who's going to discuss
21 the details of the Taniguchi-Rostoker claim limitations.

22 Our Slide 1 provides Claim 11. And the primary point for the
23 patent owner is that looking at the preamble of Claim 11, anybody, whether
24 a person of skill in the art or otherwise will read a first inductor and a second
25 inductor on a semiconductor die to mean that both the first inductor has to be

1 on the semiconductor die and the second inductor also has to be on the
2 semiconductor die.

3 And that language is particularly important, again, because it's
4 necessary to understand the subject matter of the claim and the fundamental
5 characteristics of the method recited in Claim 11.

6 JUDGE FENICK: Mr. Warr?

7 MR. WARR: Yes.

8 JUDGE FENICK: This is Judge Fenick. I was just looking at
9 Claim 1 and Claim 11. It seems difficult to say that you need to understand
10 that the first inductor and second inductor are on a semiconductor die in
11 order to understand the limitations of Claim 11 because Claim 1 is
12 understandable without that notation. And as a matter of fact, we have
13 Claim 2, which kind of further specifies that they are on a single
14 semiconductor die, meaning that maybe they weren't in Claim 1. Can you
15 address that?

16 MR. WARR: Yes. In Claim 11, the preamble, the -- a first
17 inductor on a semiconductor die, in fact, provides antecedent basis for the
18 first inductor in what is marked as 11A, the first limitation of Claim 11. I
19 think that satisfies at least the first inductor.

20 And we will admit why this claim ended up this way at the end
21 of the day, looking at 11B.1, positioning a second inductor, the use of the
22 article a instead of the. I think it should have been a the, but it's not. We
23 acknowledge that, but certainly first inductor on a semiconductor die in the
24 preamble provides the antecedent basis for the first inductor in the first claim
25 limitation.

1 And if we look at the specification itself, the specification
2 teaches implementing inductors on the semiconductor die. In the abstract,
3 there's a reference to, on a single semiconductor die. In the summary of the
4 invention, it's clear we're talking about on a single semiconductor chip.

5 Going to Slide 3 in the Summary of the Invention, it talks about
6 reducing mutual electromagnetic coupling between two inductors on a
7 semiconductor die. And then further down, the method comprises the steps
8 of forming a second inductor on the semiconductor die at a predetermined
9 distance from the first inductor.

10 So, we think if you look at the language of Claim 11 in the
11 preamble in the context of the specification of the 430 patent, that preamble
12 language on the first inductor and second inductor on a semiconductor die
13 has to be limiting. In our briefs, we -- Intel actually raised the TomTom case
14 first. I'm going to Slide 4 and in one of our papers we've provided this little
15 chart comparing the preamble from Claim 11 to the preamble in the
16 TomTom case. And in the TomTom case, the Federal Circuit found what is
17 shown in the bold italics language to be limiting in the preamble. And if one
18 looks and compares the Claim 11 preamble to the TomTom preamble, a first
19 inductor and a second inductor on a semiconductor die mirrors essentially a
20 destination tracking system of at least one mobile unit that the Federal
21 Circuit found to be limiting in TomTom.

22 Another case cited by Intel was the Catalina case. And in that
23 case, there were two claims at issue. Claim 1 had some language in the
24 preamble referring to located at a -- at pre-designated sites, such as
25 consumer stores, but the body of Claim 1 did not repeat that phrase
26 anywhere in the balance of the claim. Conversely, in Claim 25 in Catalina,

1 the phrase, located at pre-designated, such as a -- such as consumer stores,
2 appeared in the preamble and in the body of the claim and the Court
3 concluded therefore the preamble language was limiting. And we think that
4 claim is very, very similar to Claim 11 in the 430 patent.

5 JUDGE AMUNDSON: This is Judge Amundson.

6 MR. WARR: Yes.

7 JUDGE AMUNDSON: I seem to remember that there's some
8 Federal Circuit precedent that says when you're talking about claim
9 preamble, it's not necessarily all or nothing, okay? Some parts of the
10 preamble can be limiting and some parts can't be. So, based on the
11 antecedent basis for the first inductor that you pointed out, why would it be
12 incorrect for the Board to say, well, yes, that part's limiting, but the
13 semiconductor die part is not limiting?

14 MR. WARR: Because reading the preamble on a
15 semiconductor die modifies both the first inductor and the second inductor.
16 You cannot parse them out grammatically correctly.

17 JUDGE AMUNDSON: All right. Thank you.

18 MR. WARR: I think that that proposition, Your Honor, maybe
19 came up in the Arctic Cat case where I think the trial court took some
20 limiting language in the preamble and decided the entire preamble was
21 limiting. And the Federal Circuit said, no, only a portion of the preamble
22 was limiting. I think it was Arctic Cat, but I'm not exactly sure. Intel, also,
23 in arguing the preamble was not limiting, referred to the panel's institution
24 decision discussing Claim 1. Only Claim 1 was discussed in the institution
25 decision. And as we now know, Claim 1 does not contain the language
26 "semiconductor die." So, we don't think Intel should be able to take the

1 panel's discussion in the institution decision of Claim 1 to persuade the panel
2 that the preamble of Claim 11 is not limiting. There are two distinct claims
3 having different language.

4 In the prosecution history, and this is Exhibit 1002, Ericsson
5 took the limitation semiconductor die from the body of the claim and put it
6 into the preamble of Claim 11. Why that was done, I don't know. One
7 logical conclusion is that if you put semiconductor die in the preamble to
8 refer to the first inductor and the second inductor, then you're limiting the
9 scope of the claim itself.

10 So, you know, again, Claim 11's preamble does more than just
11 merely recite the intended use of the claim. It provides the antecedent basis
12 for at least the first inductor. And again, based on Federal Circuit precedent,
13 that's enough to include that the preamble of Claim 11 is limiting.

14 Referring to grounds, I'm going to change tracks here and start
15 talking about the analogous art and motivation to combine in the context of
16 round one, which is the Taniguchi reference. In the main points --

17 JUDGE CASS: So, this is Judge Cass. So, can I just ask you
18 what page of Exhibit 1002 were you referring to? In your -- you talked
19 about the amendment of the claim.

20 MR. WARR: Yes, yes, yes. I'm sorry. In Exhibit 1002, Page
21 23 has the original claim language and Page 72 has the modified claim
22 language. And we discussed it in our reply at Page 5, Paper number 25.

23 JUDGE CASS: All right. You mean your --

24 MR. WARR: Pardon me?

25 JUDGE CASS: -- opposition? Your -- you mean your sur-
26 reply or your response?

1 MR. WARR: It was Paper 25. That was a sur-reply, I believe.

2 JUDGE CASS: All right. Thank you.

3 MR. WARR: On the non-analogous art and motivation to
4 combine arguments, the main points are Taniguchi is not analogous to the
5 430 patent. And there was no motivation to modify Taniguchi either with or
6 without the Brooks reference. And then as I said, Mr. Santarelli is going to
7 address the specific claim limitations from Taniguchi.

8 First of all, we recognize that the panel and the institution
9 decision preliminarily found there were structural similarities between the
10 430 patent inductors and the antenna of Taniguchi. Sure, they're both eight
11 shaped. Yes, they have terminals. We concede that point, but there are
12 critical differences in the inventive goals of Taniguchi and the inventive
13 goals of the 430 patent.

14 And it -- I think Ms. Larochelle talked about the two-part test is
15 -- whether it's the same field of endeavor or whether it's reasonably pertinent
16 to the particular problem solved by the 430 patent. But the field of endeavor
17 also has to look at and reference the explanation of the 430 invention's
18 subject matter, including the embodiments, function, and structure of the
19 claimed invention. And that's the Netflix case cited in our brief. I'm
20 referring to Slide 5, which is Figure 7 of the 430 patent. And that's just one
21 embodiment of the inductor layout on a semiconductor die.

22 And I think part of the confusion on this particular topic arose
23 from the way the parties presented this argument in the briefing. And what I
24 mean by that is in the Petition, in the description of what a person of skill in
25 the art was, Intel's expert said that the person would have experienced in

1 designing integrated circuits or inductors. That's in the Petition. We submit
2 that Taniguchi is neither an inductor nor is it on an integrated circuit.

3 In Ericsson's preliminary response, we pointed out that
4 Taniguchi is not directed to inductors on semiconductor chips. Then, in
5 reply before the institution decision, Intel argued that the field of endeavor
6 was efficient circuit design. That's in Paper eight, Page 4. In Ericsson's sur-
7 reply, we explain that Intel's broad definition of efficient circuit design was
8 incorrect. And then in its institution decision, the board found the field of
9 endeavor was inductor design. Again, Taniguchi is an antenna, not an
10 inductor. We agree that sometimes antennas can act like inductors, but it's
11 an important point to note in the context of whether a person of skill in the
12 art would have been motivated to modify Taniguchi's antennas to something
13 that looks like the inductors in the 430 patent.

14 JUDGE AMUNDSON: This is Judge Amundson. On that
15 point --

16 MR. WARR: Yes.

17 JUDGE AMUNDSON: -- about inductors versus antennas.
18 Okay so, I'm just trying to think here of an example, but putting aside a
19 parabolic antenna, I can't think of another type of antenna that isn't at least
20 one or more inductors.

21 MR. WARR: Oh, I don't think we dispute that point, Your
22 Honor.

23 JUDGE AMUNDSON: Oh, okay. All right fine.

24 MR. WARR: Intel also pointed to some references in the
25 patent to support its position that the field of endeavor is efficient circuit
26 design. And we pointed these out in our reply paper, Paper 25 at Page 8.

1 But each of those references seems to have been cherry-picked out of
2 context because they all refer to prior language that's talking about inductors
3 on semiconductor chips.

4 JUDGE CASS: So Counsel, let me follow up on a couple of
5 these things.

6 MR. WARR: I'm sorry.

7 JUDGE CASS: When you talk about the -- this is Judge Cass.

8 MR. WARR: Yes.

9 JUDGE CASS: You talked about the definition of the level of
10 ordinary skill. So what is patent owner's current position on that and where
11 is it found in the papers?

12 MR. WARR: It's in our Paper 16. Our expert decided he
13 needed to refine his prior explanation based on what I had just summarized
14 was the progression through the briefing. So the person of skill in the art
15 would have experience designing integrated radio frequency circuits and
16 inductors for semiconductors. That's in Paper 16, Pages 4 and 5 and Exhibit
17 2009, Paragraphs 7 through 10.

18 JUDGE CASS: Okay. So as I understand it, your definition
19 requires experience designing inductors for semiconductors. So if you had
20 experience just designing inductors for other purposes, that would not be
21 sufficient; is that right?

22 MR. WARR: Correct. Correct, Your Honor.

23 JUDGE CASS: Okay. So then turning to this issue of whether
24 Taniguchi's loop antennas are inductors, you -- what's your response to
25 Taniguchi's statement talking about, and this is in Paragraph 15, that the first
26 and second antennas are arranged so that the sum of mutual inductances

1 between it and the first antenna are decreased. And then it goes on to say in
2 Paragraph 16, the coupling of the antennas is composed of inductive
3 coupling.

4 Why doesn't that tell us that the antennas are inductive?

5 MR. WARR: Again, I don't think we dispute the notion that
6 antennas can act as inductors. And I'd like to defer some of the more
7 detailed response to Mr. Santarelli's argument, who will argue in the context
8 of specific claim limitations. But Taniguchi's objective was to maximize --

9 JUDGE CASS: Well, before we get to -- I'm sorry to interrupt
10 you. Before we get to Taniguchi's objective, I just want to drill in on this
11 and then I'll let you --

12 MR. WARR: Okay.

13 JUDGE CASS: -- continue with that. I mean, my -- I guess,
14 why wouldn't it be correct to say, inductors is perhaps a genus and certain, at
15 least the loop antennas in Taniguchi are a species of that genus, as in they're
16 a type of inductor. Obviously they're a particular type that serves as antenna
17 function, but they are a type of inductor. Why wouldn't that be correct?

18 MR. WARR: I cannot think of a reason why it would not be
19 correct, Your Honor.

20 JUDGE CASS: Okay. Thank you. And with that, I'll let you
21 continue with what you wanted to say about the purpose of --

22 MR. WARR: So Taniguchi's objective was to maximize the
23 electromagnetic coupling for efficient power transfer and inductive
24 communication with those tags in the RFID system. That contrasts with the
25 430's primary goal, which was to reduce the far-field emissions and EM
26 coupling to reduce the interference between the two inductors on a

1 semiconductor. And Dr. Prucnal and his declarations 2002 -- exhibits 2002
2 and 2009 said a couple of different -- in the art was looking to get a better
3 design on a semiconductor chip. That person would go look at the CMOS
4 design rules for integrated circuits, not go look at an antenna in the RFID
5 system of Taniguchi. Again, Taniguchi's embodiments disclosed the radio
6 guidance antennas on printed circuit boards.

7 The other critical point about Taniguchi is it teaches that in
8 order to operate those two antennas must be positioned concentrically and
9 Dr. Tentzeris, who is Intel's expert, agreed repeatedly, and they must -- those
10 antennas must be positioned concentrically to generate a strong enough
11 electromagnetic field to communicate with the tags.

12 In -- against the backdrop of the description in the 430 patent,
13 Taniguchi's antenna two, when it is positioned concentrically with antenna
14 one, is not in the far field of antenna one as the claims in the 430 patent
15 require.

16 We'll get to this point a little bit later, but Ericsson's position is
17 the 430 patent and specifically the predetermined distance language in the
18 claims has to mean that the one inductor has to be laterally offset from the
19 other inductor in order to solve the problem that the inventor of the 430
20 patent wanted to solve. And if you compare, for example, Figure 7, which is
21 on Slide 5, with Taniguchi's concentric positioning as shown on Slide 7,
22 when Taniguchi says, you have to have those antennas concentrically
23 positioned, that's going to -- that would have prompted a person of skill in
24 the art not to apply those teachings to inductor designs on semiconductor
25 chips, because it's simply not going to work.

1 JUDGE AMUNDSON: This is Judge Amundson. I well may
2 be a little slow here. I wanted to ask about your point about the two
3 inductors in Taniguchi being spaced relatively close together on opposite
4 sides of the printed circuit board.

5 And so I'm looking at claim one and it says, a first inductor
6 having a reduced far field, and then it recites some structural limitations.
7 And then when we get to the second inductor, it doesn't say that the second
8 inductor is positioned in that far field. It just says it has to be at a
9 predetermined distance from the first inductor. So that -- that's -- I don't
10 know. If that seems not to -- so Taniguchi with the two inductors on
11 opposite sides of the printed circuit board would seem to at least satisfy that
12 claim language, or am I wrong there?

13 MR. WARR: We disagree.

14 JUDGE AMUNDSON: Okay.

15 MR. WARR: But we can understand how reasonable minds
16 could disagree. In the context of claim construction, a predetermined
17 distance could mean X, Y, or Z axes. I think everybody agrees with that
18 notion.

19 But if you read predetermined distance in the claim language
20 against the backdrop of the 430 patent specification, that only teaches and
21 discloses laterally offset inductors and does not teach or suggest that those
22 inductors can be positioned concentrically, then one must read
23 predetermined distance in the claim language to mean that the centers of the
24 two inductors are offset laterally on the -- on the semiconductor chip.

1 JUDGE AMUNDSON: All right. I think I got it. So we --
2 you're saying that the specification repeatedly and consistently discloses this,
3 and that's the way we ought to interpret the claim?

4 MR. WARR: Correct. Correct, Your Honor.

5 JUDGE AMUNDSON: Okay. Thank you.

6 MR. WARR: And then again, just touching ever so briefly on
7 sort of a macro level that the discussion about antennas acting as inductors
8 when you apply a current through them, Dr. Tentzeris's declaration states a
9 POSITA would understand a loop antenna and an inductor of the same size
10 and shape and carrying the same current would produce identical EM fields.
11 I don't think we dispute that. That's what he said. But what he doesn't say
12 and what the Petition does not establish is that the antennas in Taniguchi,
13 which are vastly bigger and different in size, shape, and current from the 430
14 patents inductors produce identical EM fields. That evidentiary gap is
15 missing in the petition. And Dr. Prucnal in his deposition explained that the
16 size and scale of the 430 patent's inductors differs substantially from the size
17 and scale of Taniguchi's antennas so that the EM fields produced by both
18 would be different.

19 Moving on to the motivation to combine argument and this
20 starts at Paper 16, Page 30. Intel has to articulate a reason why a POSITA
21 would have combined or modified the reference. We touched on this a little
22 bit in the non-analogous art argument. A reference teaches away when,
23 upon reading the reference, a person of ordinary skill would be discouraged
24 from following that path or would be led in a different direction from the
25 path that was -- that was taken in the 430 patent. And I'm referring to the
26 DePuy Spine case cited in our papers.

1 Again, Taniguchi -- when you read Taniguchi, if I can skip to
2 Slide 8 in the patent owner's demonstratives. Slide 8 is Taniguchi Figure 23.
3 That's -- that shows one of the problems Taniguchi was trying to solve
4 because when you placed its antennas so they're laterally offset, you would
5 get holes in the EM field that were trying to communicate with the tags and
6 it didn't work very well. So again, Figure 23 on Slide 8 is the problem that
7 Taniguchi -- or is the problem that Taniguchi wanted to solve.

8 Slide 9 is Taniguchi's solution. And this is Figure 8 from
9 Taniguchi. And it's consistent across all the figures that Taniguchi
10 absolutely says the antennas have to be positioned concentrically for it to
11 work and Intel's expert Dr. Tentzeris agrees.

12 Slide 10 is Figure 7 from the 430 patent. That's, again, shows
13 the lateral offset requirements of the inductors on the semiconductor chip in
14 the 430 patent. And there is nothing in the text or the specification of the
15 430 patent that indicates or suggests that predetermined distance in the claim
16 language can be zero. It has to be something. And we can confirm that by
17 looking at Slide 11, which is table two from the 430 patent, which explains
18 or shows as the offset increases as shown in the left-hand column, so that --
19 and that's referring to looking at the text, as the -- as the distance between
20 the center points of the two inductors increases, that's the offset, the
21 attenuation, in this third to right-hand column, increases and the attenuation
22 being the decrease in the signal.

23 So what this is showing is, as you move the center points of the
24 two inductors in the 430 patent apart, you see an increase in the attenuation
25 of the signal, which is the problem the 430 patent solves. I'm going to
26 Figure 12 -- excuse me, Slide 12, which is Figure 4, again showing a major

1 factor in reducing that EM coupling is spacing those two inductors further
2 apart.

3 Slide 13 from the 430 patent, the bottom axis is the center
4 distance, which, if we look at the specification, refers to the distance
5 between the center points of the two inductors. As that center distance
6 increases, the transfer gain, i.e. the attenuation of the signal, gets more
7 desirable in the context of inductors on integrated circuits.

8 I'm jumping to Slide 15, which is the 430 patent figure 12.
9 Again, the horizontal axis is showing as the center distance increases, the
10 attenuation of the signal, the vertical column on the left, decreases, and it
11 compares 1204, which is an O-shaped inductor like the prior art, versus the
12 eight -- Figure 8-shaped inductors from the claims of the 430 patent and then
13 the four-leaf clover embodiment from the 430 patent, all showing better
14 attenuation, reduction in signal strength as the center distance -- the distance
15 between two -- the two centers of the inductors increases, everything gets
16 better, and that's the complete opposite of what happened in Taniguchi.
17 Taniguchi said you have to move those center points together and make
18 them concentric.

19 Given the time, I'd like to give Mr. Santarelli some time to
20 discuss particular limitations that are missing from the Taniguchi and
21 Rostoker references, if that's okay with Your Honors.

22 JUDGE CASS: That's fine.

23 MR. WARR: Thank you.

24 MR. SANTARELLI: Thank you, Your Honors. So I'll just
25 start out by saying I think both parties are in agreement as to what the 430
26 patent -- what it's trying to solve. It's trying to solve the problem of

1 electromagnetic coupling between inductors and VCOs, and Judge
2 Amundson, you asked along -- way at the beginning about the VCOs. Yeah.
3 There -- it says in the patent that, you know, the frequency operation is 4
4 gigahertz, so their VCO is at that that frequency to be used, you know, for
5 wireless. I mean, that's in the patent there.

6 One of the points of contention, and my colleague, Mr. Warr,
7 was just talking about it, was what the term “predetermined distance” means.
8 You know, Intel says it can be a vertical distance, and Ericsson says, well,
9 no, it has to be a lateral distance, and Mr. Warr went on to explain, you
10 know, based on the interpretation of the claim and viewing the specification
11 why that has to be, and I would just point the Board to column 4 of the 430
12 patent that goes and describes, you know, the canceling of magnetic fields,
13 that uses terms far field and a certain distance to show --

14 And also, because it's in a semiconductor, the distance -- one of
15 skill in the art would realize the distance is lateral. As a matter of fact, our
16 technical expert even said in his declaration, I'm trying to find the cite here,
17 that it would be difficult to impossible to have concentric inductors from
18 different circuits from different VCOs concentric with one another because
19 it would put a design constraint where you have to put all these things close
20 enough together to be able to get the inductors concentric with another, and
21 that's in the docket of Prucnal's supplemental declaration. It's in Paragraph
22 50, if you want the cite for that.

23 But one thing that I do want to talk about, and it regards
24 Taniguchi, that none of the other people have talked about really or at least I
25 didn't pick it up is -- refers to the claim language, and I'm just going to use
26 Claim 11's language, but Claim 1's language is similar. It's the last

1 paragraph of Claim 11 and it says, positioning a second inductor at a
2 predetermined distance from the first inductor, and we've already discussed
3 that needs to be a lateral distance, wherein the mutual electromagnetic
4 coupling between the first inductor and the second inductor is reduced as a
5 result of the first conductor -- inductor having a reduced electromagnetic
6 field. Taniguchi does not teach that. I'm looking at Slide 7 of the patent
7 owner's demonstrative exhibits.

8 Would you prefer I share it or is it good enough just to tell you
9 what slide it is?

10 JUDGE CASS: I think it's fine if you tell us what slide it is.

11 MR. SANTARELLI: Yeah. So this is the slide that shows how
12 Taniguchi -- how Taniguchi works. They have these two antennas and
13 they're concentric, and, as my colleague pointed out, they have to be
14 concentric. As a matter of fact, Intel's expert -- and if you look, I think it's
15 Slide 17. There are quotes from Intel's expert's declaration where he says
16 they have to be concentric.

17 And so the way that the Taniguchi reference works is if you
18 look and you see Antenna 1, Antenna 1, it says, induces opposing currents in
19 Antenna 2. But what happens is there's a magnetic field from Antenna 1
20 that's coupling to Antenna 2, but it's doing so in such a way that it induces
21 these opposing currents, so the net current is 0. So that makes the mutual
22 electromagnetic coupling 0, and the reverse is true also.

23 If Antenna 2 has a current flowing through it, it generates a
24 magnetic field, and that magnetic field is certainly coupling to Antenna 1,
25 but it's doing so in such a way that it's inducing these opposing currents in
26 Antenna 1, so the net current is 0 and the mutual -- the mutual inductance

1 coupling is 0. Now, if you look at -- yeah. Let's -- think it's slide -- yeah.
2 It's Slide 16.

3 JUDGE AMUNDSON: This is Judge Amundson. I just had a
4 question on the concentric point that you're raising. And are you saying that
5 -- there's a couple of facets of this. Okay. When you say concentric, you
6 don't -- you're not saying they have to be coplanar?

7 MR. SANTARELLI: Correct. I meant concentric in an XY
8 plane.

9 JUDGE AMUNDSON: In a -- like, from a plan view --
10 concentric from a plan view?

11 MR. SANTARELLI: Yeah. Yeah. Concentric from a plan
12 view, correct.

13 JUDGE AMUNDSON: Okay. I got it. Thank you.

14 MR. SANTARELLI: Can I continue?

15 JUDGE AMUNDSON: Yes. Yes. Thank you.

16 MR. SANTARELLI: Oh. Oh. Great. So if you look at --
17 we're looking at Slide 16, and if you look at Figure 10D, so that's just the
18 end view of these two antennas, like -- so the antenna in 10B, I assume it's
19 on the right-hand side of Figure 10D, and the antenna that's in Figure 10E --
20 I'm sorry. On the -- yeah. Say that again. The antenna in 10B, say it's on
21 the left-hand side of Figure 10, and -- I'm sorry, 10D, and the antenna in
22 Figure 10E is on the right-hand side of the PC board 10 in Figure 10D.

23 So those antennas are close together, so the field that's
24 generated by the antenna on the on the left-hand side is strong at the antenna
25 on the right-hand side. It has to be strong because Taniguchi's whole
26 purpose is to generate these and to generate a signal that can couple with

1 RFID tags that are, you know, all the way over here, so at that point on that -
2 - just on the other side of that PC board, the field has to be strong.

3 And as I already explained, the reason why there's no magnetic
4 coupling between those two antennas is because they induce opposing
5 currents in one another. It's not because the antenna on the left has a
6 reduced magnetic -- electromagnetic field and it's not because the antenna on
7 the right has a reduced electromagnetic field at the -- at the left antenna. So
8 that language in the claim -- that requirement of the claim is just not met by
9 Taniguchi.

10 JUDGE CASS: Counsel, this is Judge Cass. I guess I'm a little
11 confused because my understanding from both the 430 patent and Taniguchi
12 as well as expert testimony and other evidence was, you know, having this
13 Figure 8 shape, as in Taniguchi in the 430 patent, is going to reduce the far
14 field inductance of the overall antenna because the loops will, to some
15 degree, cancel each other out.

16 Are you disagreeing with that or, you know, maybe I'm missing
17 something in your argument?

18 MR. SANTARELLI: Well, where are you saying that it's
19 canceling out? I'm talking about at -- Intel's trying to say the antenna on the
20 left of Figure 10D is one inductor and the antenna on the right of Figure 10D
21 is the other inductor, and I'm saying the magnetic field or the reduced
22 magnetic field at one antenna -- from one antenna at the other antenna is not
23 due to the reduced -- to one of the antennas having a reduced magnetic field.

24 So, are you talking about that or are you just talking somewhere
25 else?

1 JUDGE CASS: Well, I mean, the claim says that the mutual
2 coupling between the first inductor and the second inductor is reduced as a
3 result of the first inductor having a reduced electromagnetic field, so are you
4 saying that --

5 I think you did say that there was -- there wasn't any mutual
6 electromagnetic coupling; isn't that right? Did I get that right?

7 MR. SANTARELLI: Yeah. There's no electromagnetic
8 coupling between the two Taniguchi Antennas, so that's correct.

9 JUDGE CASS: And are you saying that is not resulting from
10 the reduced inductor -- sorry. The reduced electromagnetic field of the first
11 inductor? I guess the inductor on the left maybe is what we're talking about.

12 MR. SANTARELLI: Yes. That's what I'm saying. It's not due
13 to the inductor on the left having a reduced magnetic field. It's due to the
14 inductor on the left has a strong magnetic field, but it's inducing opposing
15 currents in the antenna on the right. That's what's causing the reduction in
16 the electromagnetic coupling. It's not -- it's not the same mechanism as
17 claimed and taught in the 430 patent, which is, hey, I designed this antenna,
18 and so at a -- at a predetermined -- you know, at a lateral distance over here,
19 the magnetic fields from this antenna -- the single antenna kind of cancel
20 each other and they're reduced over here.

21 The antennas in Taniguchi are too close for that to happen, and
22 that's because -- and here, I just need to see what slide it is if you just give
23 me one second. Yeah. If you look at Slide 6, Slide 6 is Taniguchi's setup,
24 right? They have that -- the antennas we were just looking at in Figure 10
25 and 10D, so one of those antennas -- you know, dual antennas on a PC

1 board, that's on the right. That's shown as Number 10, say, in 13A, and then
2 something that's similar or identical is over here on the left.

3 I'm -- I keep saying left. Over here it's left and right, but
4 anyway, between those two, you know, there's a space in between them, and
5 that's where the RFID tags go. Like, you know, when you buy stuff in the
6 grocery -- or, you know, Target or whatever, and you walk through, they
7 want to have a strong magnetic field in between that space because they
8 want to detect the RFID tag if you're stealing something, and so it just makes
9 sense if --

10 I'm going to go back to Slide 16 again. It just makes sense for
11 that to happen, that the magnetic field they generated by the antenna on the
12 left of Figure 10D has to be strong, but pretty much at its strongest at the
13 antenna on the right of Figure 10D and vice versa. The field generated by
14 the antenna on the right of Figure 10D has to be pretty much at its strongest
15 where the antenna in the left is because they're so close together.

16 So, the mechanism for canceling or reducing magnetic coupling
17 is totally different from the mechanism that's claimed in the 430 patent. The
18 Taniguchi mechanism is generating -- inducing opposing currents in each
19 other, okay, so it doesn't really -- you know, you can have a super strong
20 magnetic field. It just generates opposing currents, so that's how there's no
21 magnetic coupling, but in the 430 patent, it's -- you know, the first inductor,
22 it's -- the second inductor is at a position where the electromagnetic field
23 from the first inductor is reduced.

24 Sorry. I know I spoke for a long time. Is there any question
25 about that?

1 JUDGE CASS: No. I'm just -- so, I mean, I'm looking at
2 Figure 13A and 13B and reading the spec portions of Taniguchi, which I
3 think started in Paragraph 81, and it looks like that's an embodiment where
4 you've got two antennas on each side -- you know, two antennas on this left
5 panel and two antennas on this right panel.

6 MR. SANTARELLI: Right. Correct. I mean correct.

7 JUDGE CASS: Seems like it's different than what the
8 petitioner is relying on. I don't recall them relying on this particular
9 embodiment.

10 MR. SANTARELLI: Right. All I'm just saying -- I'm using
11 that as an example to show that if you just consider, say, the antenna on the
12 right -- I'm sorry. On the left -- the PC board on the left, it has two antennas,
13 one on each side. Do you agree with that?

14 JUDGE CASS: Yeah. Yeah. I mean, I --

15 MR. SANTARELLI: Yeah.

16 (Simultaneous speaking.)

17 MR. SANTARELLI: So, Intel's relying on just that. All I'm
18 saying is they're trying to equate the antenna on the left of the PC board with
19 the antenna on the right, and I'm just saying the electromagnetic field
20 generated by the antenna on the left is very strong at the antenna on the
21 right, and I'm just using Figure 13 as kind of evidence to show that it has to
22 be strong because -- the field has to be strong in the -- in the middle there
23 between the two because they want to detect RFID tags or Taniguchi wants
24 to detect RFID tags. So, I'm not saying that Intel's relying on that figure.
25 I'm just using it to illustrate my point.

1 JUDGE CASS: So if we were to just look at the figure on the
2 left and kind of ignore the figure on the right -- or I'm sorry. The antenna
3 structure on the left, ignore the antenna structure on the right. You know, in
4 that case, would the mutual inductances between the two antennas that are
5 separated from -- by -- the insulation be reduced due to the reduced
6 electromagnetic field of the Figure 8-shaped antenna?

7 I mean, it might still be strong, but, you know, would it be
8 reduced --

9 MR. SANTARELLI: No. No. It's --

10 JUDGE CASS: -- from what it could be if they were in some
11 other configuration?

12 MR. SANTARELLI: Well, I mean, it may be a little -- I mean,
13 it -- say it's the strongest right at the antenna and then it gets a little weaker
14 as it goes out, but it's not -- it's not -- the reduction in magnetic coupling
15 between those two antennas is not because one of them has a reduced
16 magnetic field at the other one. It's because they induce opposing currents in
17 each other.

18 In other words, Taniguchi is saying, you know, he doesn't have
19 the luxury of spacing apart his antennas. As a matter of fact, if you look at
20 his background, he actually teaches away from that. He's saying if you have
21 these multiple antennas and you space them out, it's bad because it makes an
22 unstable region where the RFID tags pass through.

23 So he says you want to put them, like, together, but if you just
24 kind of put any two antennas together, they might have magnetic coupling
25 because they're both generating really strong fields at each other, and so the
26 way to do it is to design the antenna -- to shape the antenna so that it induces

1 opposing currents in the other antenna, which is different than just saying,
2 oh, it has a reduced magnetic field at the other antenna.

3 The magnetic field isn't reduced at the other antenna. It's
4 strong, but because it induces opposing currents in the other antenna, you get
5 the same effect that the mutual -- the mutual electromagnetic coupling is
6 zero or, you know, reduced, but it -- Taniguchi says it's zero.

7 JUDGE CASS: Okay. All right. One at a time. Go ahead and
8 continue. I think I may ask some follow-up questions in a little bit.

9 MR. SANTARELLI: Yeah. Sure. Yeah. And I just wanted to
10 point out that the -- Intel brought up -- they brought up European
11 prosecution. I don't have a slide for that, but I'll just read what the -- what
12 the -- Ericsson's counsel said in the European prosecution. It said, and this is
13 a quote, hence no particular distance between the two inductors is mandated
14 in the description. You know? So that's not saying that the distance has to
15 be lateral. It's just saying there's no particular number, like, you know, 1.1
16 millimeters, that it has to be. It's just saying it can -- you know, it's not
17 limited to just one particular distance. And I'll get to the Japanese one when
18 we get to that.

19 So anyway, that's the deal with my discussion with Taniguchi,
20 so now I just wanted to go on to the combination or -- of Taniguchi and
21 Rostoker. So Intel argues, you know, hey, it would be obvious for one to,
22 you know, take Taniguchi's antenna -- you know, these two antennas that are
23 on -- you know, that are concentric with one another and stick it on
24 Rostoker's IC, and just in the interest of time, I'll just kind of jump to the
25 conclusion.

1 If you look -- I can't remember what slide. Oh, it was Slide 90
2 of Intel's exhibits, and it shows Rostoker's chip and Taniguchi's antenna just
3 kind of, like, you know, smack-dab in the middle. One of the problems that
4 Rostoker talked about was having an antenna that interfered with circuitry
5 on the chip. So, if you look at -- yeah. So, if you look at Slide 21 for a
6 moment of our exhibit, Slide 21 is Figure 6 of Rostoker. Rostoker says, hey,
7 you've got these antennas.

8 It doesn't talk about any kind of coupling between the antennas,
9 so there's really no motivation, like, why someone would want to put
10 Taniguchi on the chip to reduce coupling between antennas because
11 Rostoker doesn't even talk about that, but one problem that Rostoker talks
12 about is it says -- and it's in Figure 1 of Rostoker. I don't have that as one of
13 the exhibits, but it's in Figure 1.

14 And so, in Figure 1, Rostoker shows, like, this -- they call it a
15 peripheral antenna. It's all the way around the outside of the chip and all the
16 circuits are in the middle and they're inside the antenna, and Rostoker says
17 that's bad. The antenna -- the term they use is adverse -- you know, adverse
18 effects on the circuitry because the circuitry is inside the antenna. So, the
19 solution that Rostoker has is --

20 If you go to Slide 20 of our exhibit, it shows Figure 2 of
21 Rostoker. Rostoker says, hey, the way we solve that is we take the antenna
22 and we kind of move it into this little corner down here, the right-hand
23 corner, and we put the circuitry everywhere else, so we separate the antenna,
24 the -- you know, the region where the antenna is from the region where the
25 circuitry is, and that's how we prevent this, you know, interference caused
26 by the antenna with the circuitry.

1 Well, again, if you look at Intel's Exhibit -- you know, the Page
2 90 of their exhibit, you know, they show Taniguchi's antenna, like, right in
3 the middle of the whole thing, so it's going to cause the problem of
4 interference with the circuit that Rostoker solved, so no one would be
5 motivated to put Taniguchi's antenna in there because it would cause the
6 same problem that Rostoker said it would cause and that Rostoker solved in
7 a different way.

8 Is there any questions on that? Oh, could you give me just a
9 time check?

10 JUDGE CASS: Yes. You have about 7 minutes, 45 seconds
11 until you go into your rebuttal time.

12 MR. SANTARELLI: Okay. Great. So the last point I wanted
13 to talk about was these two close -- sorry. I just want to make sure I read the
14 claim correctly, and, again, I'm reading just from Claim 11, the penultimate
15 paragraph, connecting two closely-spaced terminals for the first loop, blah,
16 blah, blah, while -- to -- or while minimizing magnetic field contributions
17 from the terminals.

18 So there was some discussion about that, and if you go to --
19 yeah. If you go to Slide 19 of our -- of Ericsson's demonstratives. So it
20 shows those two terminals, 111, on the -- on the left-hand side, Figure 8B.
21 He shows those terminals and, you know, kind of in a -- Intel's just saying,
22 hey, those are close together, and so they meet the claim language because
23 they're close together, they -- you know, the magnetic field -- you know,
24 minimizes magnetic field contributions.

25 The only thing that Taniguchi says about its terminals is it says,
26 oh, it would be great -- it's great to have the Terminals 111, which are in

1 Figure 8B, kind of close to the terminals in Figure 8E, they're really
2 Terminals 112 but for some reason it just says 12 there, for wiring purposes.
3 So it just says, hey, it's great if you know, so if you look at Figure 8D, the
4 Terminals 111, say, are on the left, on the bottom left, and the terminals
5 from Figure 8E are on the bottom right. And it's just saying, hey, yeah, you
6 know, putting those terminals near each other is great, you know, kind of
7 assist in wiring. So, there's nothing about electromagnetic fields or
8 anything.

9 And it doesn't even say anything about how far apart they are. I
10 mean, it shows them in the drawing. But you know, our expert has said, you
11 know, the dimensions of Taniguchi are on the order of a meter, right? So, I
12 don't know how far apart those terminals are. I mean, they don't say. And,
13 you know, the dimensions on the semiconductor chip are a lot smaller. So,
14 there's really no, I guess, inference from just looking at Taniguchi about, you
15 know, were those close enough to reduce a magnetic field contributions
16 from either of them. Intel -- oh.

17 JUDGE AMUNDSON: This is Judge Amundson. On that --
18 on that point --

19 MR. SANTARELLI: Sure.

20 JUDGE AMUNDSON: -- close together. Okay. It seems to
21 me when you're talking about electromagnetic waves, what's close and far
22 really is - is dependent on wavelengths. So, if the patent, the preferred
23 embodiment, is operating at four gigahertz, well, you know, something that's
24 like one wavelength at four gigahertz might be a lot bigger at -- in terms of
25 meters or centimeters or millimeters if you're talking about a wavelength at
26 eight kilohertz.

1 MR. SANTARELLI: Yes, sir.

2 JUDGE AMUNDSON: Am I wrong?

3 MR. SANTARELLI: Well, sir, you're saying that how close
4 they are to reduce the magnetic fields depends on wavelength. That's -- that
5 was your assertion?

6 JUDGE AMUNDSON: Well, I guess my point is, I wouldn't
7 look at it in terms of absolute distance, the meters, centimeters, millimeters,
8 okay? But maybe more in terms of the antenna structure, and the antenna
9 structure has got to be sized appropriately with whatever frequency,
10 whatever wavelength you're working with. So, I -- I'm not sure I agree with
11 your point about that Taniguchi things are in meters whereas in the preferred
12 embodiment things are a lot smaller.

13 MR. SANTARELLI: Well, I'm just saying that Taniguchi
14 doesn't say -- give any guidance at all as to how far apart those are spaced
15 and certainly doesn't say anything about how far apart you could space them
16 apart to minimize magnetic field contributions from the terminal. And I'm
17 just saying that just by looking at the picture, you know, someone of skill in
18 the art wouldn't be able to deduce, oh yeah. Well, you know, they show
19 them kind of close together in Taniguchi. If I put them close together on a
20 semiconductor chip, it will reduce magnetic field contributions. That's what
21 I'm saying.

22 JUDGE AMUNDSON: All right. Okay. I think I understand.
23 Thank you.

24 MR. SANTARELLI: Yeah, sure. And so, Intel tries to kind of
25 remedy that by they combine Taniguchi with Brooks. And Brooks, Brooks
26 just -- and I don't have any slides for Brooks. But Brooks is just a book

1 about printed circuit board design, you know how things are designed on a
2 printed circuit board. And Brooks does talk about twisted pairs. It says that,
3 you know, if you have two wires that are kind of next to each other on a
4 board and you -- and you twist them, you know, that can reduce, like,
5 radiation from the wires, right?

6 But it also says a twist -- you know, if you do that, that can also
7 act as an antenna, receive noise, and it can cause crosstalk and all these other
8 problems. And so you know, a person who is working in the semiconductor
9 field is going to realize, you know, hey, I can't use a twisted pair necessarily
10 because there are all these other problems it might have. So you know,
11 Brooks doesn't really add anything to semiconductor design.

12 And another point is, Brooks actually has a section where it
13 says, hey, people don't use inductors on printed circuit boards. You know,
14 we try not to use inductors at all. You know, we try to use other techniques
15 so we don't need to put inductors on a printed circuit board. And so again,
16 you know, those two things combined, I mean, someone of skill in the art is
17 not going to look to Brooks that says, hey, don't even use inductors to try to
18 figure out a problem with an inductor.

19 I think I would like -- I -- unless there are other questions, I
20 would, you know, hold the time for rebuttal.

21 JUDGE CASS: All right, Counsel. Well, you have perfect
22 timing and you finished just as your main argument's time came to an end.
23 So you'll have 10 minutes left for your rebuttal.

24 MS. LAROCHELLE: Thank you, Your Honors.

25 JUDGE CASS: And yes, Counsel for Petitioner, you have 10
26 minutes for your rebuttal, so you may begin when you're ready.

1 MS. LAROCHELLE: Okay. Briefly, and I won't put our slides
2 up but we'll direct you to relevant slides, I want to address first Patent
3 Owner's arguments about field of endeavor being limited to implementations
4 on semiconductor dies. As we showed on Slide 26, the Federal Circuit has
5 held -- the Federal Circuit has held that the -- this is, I'm sorry, Slide 28, the
6 Federal Circuit has held that the field of endeavor is not limited to the
7 specific point of novelty, the narrowest possible conception of the field, or
8 the particular focus within a given field. And as I discussed when I was up
9 earlier, on Slide 46, Taniguchi's principal purpose is reducing coupling
10 between the two antennas in the antenna layout.

11 Now, as to the size issue, and Patent Owner had -- admits that
12 the field produced by a large antenna and a small inductor is the same, but
13 points to the size differential. But Dr. Tentzeris talked extensively about
14 scaling during his deposition. And I would direct you to Patent Owner's
15 Exhibit 2010, which is the Tentzeris deposition, Page 11, Line 6 through 17,
16 and Page 28, 15 through 22, where Dr. Tentzeris was questioned about this
17 issue and talked extensively about how a POSITA would have the ability,
18 the knowledge, and the skill to scale a large antenna to a smaller form factor.
19 And again, all about the frequency that the antenna operates at. And then --

20 JUDGE CASS: Counsel, this is Judge Cass.

21 MS. LAROCHELLE: Yes.

22 JUDGE CASS: I was wondering if you could -- and I don't
23 know which of you would be better to address this. But if you could address
24 Patent Owner's argument that because of the positioning of the inductors in
25 Taniguchi, it does not -- there is not a reduction in mutual electromagnetic
26 coupling between the first and second inductors as a result of the first

1 inductor having a reduced electromagnetic field. But in their view, that is
2 because the two inductors induce currents in each other, is how I understood
3 that argument.

4 MS. LAROCHELLE: Absolutely. And Ms. Gordon --
5 (Simultaneous speaking.)

6 JUDGE CASS: So yeah, if you can address that.

7 MS. LAROCHELLE: But yeah --

8 JUDGE CASS: And I apologize for making you shuffle
9 around.

10 MS. GORDON: Oh, not a problem. Not a problem. So Your
11 Honor, I want to address Patent Owner's argument, and they're just
12 technically incorrect in their position. And I would direct Your Honors to
13 our Slide 69 and our reply, Page 17, and Dr. Tentzeris's supplemental
14 declaration at 12 through 14. What -- it appears at this point that there is no
15 dispute that Taniguchi has reduced electromagnetic coupling between its two
16 inductors.

17 There's also no dispute that the figure-8 inductor has a reduced
18 electromagnetic field. And as a result of that reduced electromagnetic field,
19 there is reduced coupling. And in fact, Dr. Tentzeris, in response to Patent
20 Owner's arguments, presented or developed some simulations to illustrate
21 this in showing that the field is in fact reduced when you're, you know, one
22 substrate thickness above. And that's what we see on -- the reply on Page 17
23 and on our Slide 69. And it's important to note that because of this reduced
24 field --

1 JUDGE CASS: Counsel, I'm sorry. Before you move on,
2 could you explain what's shown on Slide 69 a little bit more? What are we
3 comparing? What -- what's the --

4 MS. GORDON: Right. Right.

5 JUDGE CASS: -- what is reduced compared to what?

6 MS. GORDON: Yeah. So what you see on Slide 69 is the
7 magnetic field first at -- in the upper left hand corner is the field at the plane
8 of the loop. When you go to the upper right, it's the field that's one substrate
9 thickness above that, so just the thickness of one substrate. And you can see
10 from the field lines that the field has been reduced when it's only one
11 substrate thickness. As you go to the bottom left, you see it at two substrate
12 thicknesses and the bottom right is at three substrate thicknesses. So, the
13 EM field is reduced where you're putting that second inductor in Taniguchi.

14 And because the field is reduced, there's less field present and
15 being present on that second inductor and the EM coupling is reduced.
16 Now, you know, if you think about it, it's a big loop and you have the
17 opposing fields coming through. It is as a result of those equal and opposite
18 fields that you have the reduced net electromagnetic coupling. They are
19 connected. Reduced electromagnetic field, reduced electromagnetic
20 coupling. And Patent Owner hasn't presented any evidence from its expert.
21 They didn't depose Dr. Tentzeris on his supplemental declaration on this
22 point.

23 Any other questions, Your Honors?

24 JUDGE CASS: No, thank you. Thank you for that.

25 MS. GORDON: Okay.

1 JUDGE AMUNDSON: This is Judge Amundson. Since you're
2 up, now I did have a question. It relates to what you've shown on Slide 90.
3 And I just want to make sure I understand the proposed combination. And it
4 might help if we could look at Figures 7A and 7B in Rostoker, which would
5 be --

6 MS. GORDON: Okay.

7 JUDGE AMUNDSON: -- which would be sheet 5 of 11 in
8 Exhibit 1006.

9 MS. GORDON: Okay.

10 JUDGE AMUNDSON: Do you have that?

11 MS. GORDON: Yeah. So let me get Exhibit 1006, 1006
12 Rostoker. He -- okay. Can you point me to the sheet 5 of 11? Yes.

13 JUDGE AMUNDSON: Right. And it's Figures 7A and 7B?

14 MS. GORDON: Yes.

15 JUDGE AMUNDSON: And so as I understand, what we are
16 seeing in Figure 7A and 7B is we've got a semiconductor chip, 702, and an
17 insulating layer, 710, and then two antennas on either side of the insulating
18 layer, 710, Antenna 704 and Antenna 724?

19 MS. GORDON: Yes, Your Honor. That is -- that is correct.
20 Yes.

21 JUDGE AMUNDSON: And so is -- what Slide 90 trying to
22 show is that the proposed combination is replacing antennas 704 and 724 of
23 Rostoker with the Taniguchi antennas or is -- or is that something else?

24 MS. GORDON: Yeah. So I think what Slide 90 is intending to
25 reflect is that when you combine Rostoker's teachings with Taniguchi, you're
26 placing one of Taniguchi's antennas on the upper surface and one on the

1 lower surface, just like 704 and 724. Of course, that -- they're not -- it's not a
2 direct replacement of 704 and 724 because they're different structures. So
3 what Taniguchi -- what the combination is, is using Rostoker's teaching that
4 you can put one antenna on one layer in a semiconductor and another
5 antenna on a separate layer of the semiconductor. That is the combination
6 and what Rostoker teaches us.

7 JUDGE AMUNDSON: All right. Thank you.

8 MS. GORDON: Right. And I just -- while I -- while I'm up, I
9 want to just point out, you heard Patent Owner discuss in detail Rostoker
10 and Rostoker's disclosure. But I want to stress, our combination is not
11 relying on Rostoker's antennas or Rostoker's background. Our combination
12 is putting Taniguchi's antennas on a different layer than Rostoker. So,
13 Patent Owner's arguments are not relevant to our combination.

14 So, if we have extra time, I want to turn back to Ms. Larochelle
15 to address one or two additional points.

16 JUDGE CASS: Yes. You have about a little over a minute, so
17 I just want to --

18 MS. LAROCHELLE: Okay. All right, I'll be very brief. I'll be
19 very brief. Thank you, Your Honors. I wanted to circle back to something
20 Patent Owner mentioned about how the patent only discloses lateral
21 displacement. That's the only thing that we see in these examples. And I
22 just want to just center us on some Federal Circuit case law. And what we
23 pulled up was Continental Circuits v. Intel. I don't have a Westlaw citation,
24 but it's dated February 8th, 2019. And on Page 13, the Federal Circuit
25 explains, we have expressly rejected the contention that if a patent describes

1 only a single embodiment, the claims of the patent must be construed as
2 being limited to that embodiment.

3 So expressly rejected that contention and then goes on to cite a
4 number of other Federal Circuit cases holding that if the patent only
5 discloses a single embodiment, that doesn't limit the claims unless there's
6 some other reason to limit the claims. And here, Patent Owner has not
7 pointed to any other reason why the claim should be so limited to these
8 simulation examples.

9 And unless you have questions, thank you all.

10 JUDGE CASS: Okay. Thank you, Counsel. I think we're
11 about out of time, so --

12 MS. LAROCHELLE: Thank you.

13 JUDGE CASS: Thank you very much. And we'll now turn to
14 Counsel for Patent Owner. I'm going to put ten minutes on the clock.

15 MR. WARR: Thank you, everybody. Thank you, Your Honor.

16 JUDGE CASS: You may begin.

17 MR. WARR: I would like to address Ms. Larochelle's last
18 argument and then turn the microphone back over to Mr. Santarelli for the
19 difficult stuff. The Continental Circuit case was cited for the proposition
20 that we -- that Ericsson did not identify any lexicography disclaimer or
21 disavowal requiring inductors to be laterally spaced apart. In that case
22 though, the issue related to the Court's claim construction that essentially
23 defined or construed one term to mean a repeated desmear process. The
24 Court read repeated desmear process into the claims when that claim -- when
25 that term did not appear in the claims.

1 And in that case, the specification did not clearly limit the
2 invention to repeated desmear processes. Conversely, in this case, the 430
3 Patent expressly recites predetermined distance in each of the challenged
4 claims. And we know that when one reads the claim terms in light of the
5 specification and the specification supports one conclusion and one
6 conclusion only, that those two inductors must have their center points at a
7 distance apart from one another what is -- which is laterally offset to the
8 exclusion of concentric positioning. So the Continental Circuits case does
9 not prohibit Ericsson's position and it does not require Your Honors to read
10 out the predetermined distance term from the language of the claims.

11 Mr. Santarelli, if you'd like to tackle anything else on the
12 technical side. You're on mute, I think, Bryan.

13 MR. SANTARELLI: There we go. How many minutes do I
14 have roughly?

15 JUDGE CASS: You have about seven and a half minutes.

16 MR. SANTARELLI: Okay. So, I just wanted to address the
17 two points that -- I can't remember her name, I apologize, Ms. Larochelle's
18 colleague made. So, the first point, they pointed to their Slide 69 where they
19 showed some magnetic field that were generated by a figure-8 antenna and
20 said that, you know, so the figure-8 antenna generates a magnetic field that
21 looks like this. But then if you move it a little bit, you know, away, it's a
22 little bit reduced. Okay. I'm not going to dispute that, because if you move
23 an antenna -- if you keep moving it farther and farther away, I mean, the
24 field is going to get reduced, but that's not what Taniguchi teaches.

25 Taniguchi does not teach that the reduction in coupling between
26 the two antennas is because the figure-8 antenna has a reduced magnetic

1 field as the second antenna. It teaches that the magnetic field in one antenna
2 does not couple to the other antenna because the first antenna generates
3 opposing currents in the other antenna. So, it's the generation of opposing
4 currents that Taniguchi teaches. And if you look at our Slide 16, and if you -
5 - and this, if you look at -- I -- and I know you can't look at both at the same
6 time maybe, but Figure 9 of Taniguchi, so Slide 16 shows two figure-8
7 antennas and they're offset from one another.

8 And if you look at Figure 9 in Taniguchi, Taniguchi explains
9 that when you when you know, have one figure-8 antenna like this and the
10 other figure-8 antenna at 90 degrees, you get that same mechanism for
11 inducing coupling based on induced magnetic field. Okay. If they were just
12 relying on the figure-8 antenna having a reduced magnetic field, you know,
13 why would they have to put them like this? They could just say, oh, just use
14 two figure-8 antennas and, voila, you're done. It would -- they wouldn't
15 have to say anything about reduced magnetic fields. And then --

16 JUDGE CASS: Also, this is just -- are there portions of the
17 spec in Taniguchi that you can point me to that support this position of
18 yours? I mean, I know there's the drawings on Slide 16, I guess it is. But
19 are there parts of the written description that support it too?

20 MR. SANTARELLI: Well, yeah. I mean, -- here, let me --
21 sorry. I'm just looking through my notes. Yeah. So like, if you look --
22 Taniguchi's Exhibit 1005, you know, there's Figure 3, there is Paragraphs 15,
23 19 through 21, 57, 60 and 95 are just some of the places that talk about that,
24 how Taniguchi reduces the magnetic coupling between the two antennas.
25 And that's the only teaching that they have. Is it okay if I --

26 JUDGE CASS: All right. That's it.

1 MR. SANTARELLI: Yeah. Can I go on or do you have
2 another question?

3 JUDGE CASS: Yes. Yes. Go ahead.

4 MR. SANTARELLI: Yeah. And then I just wanted to address
5 the combination -- a combination of Taniguchi and Rostoker. Intel's
6 Counsel said we were misconstruing what they were trying to do. They
7 were trying to say that, oh, you could put -- they were just trying to show
8 that you could put Taniguchi's antennas like on two -- on two different
9 layers of Rostoker or on one layer. It doesn't matter. If you look at that
10 again, Figure -- I think it's Slide 90, their Slide 90, it doesn't matter what
11 layers Taniguchi's antenna is in. It's still going to cause the same problem of
12 interference with the circuitry that's within that antenna or, you know, within
13 that area surrounded by the -- or in the antenna.

14 And that's the problem that Rostoker specifically called out and
15 said, oh, to correct that problem, you've got to move the antenna off to the
16 side and move the circuitry in, you know, different regions. So, it doesn't
17 really matter where their antenna is formed, it still causes the same problem.

18 JUDGE AMUNDSON: This is Judge Amundson. I -- did --

19 MR. SANTARELLI: Yes.

20 JUDGE AMUNDSON: I -- yeah, I -- I'm trying to understand
21 that moving off to the side argument. And if we look at Rostoker -- well, we
22 could look at Figures 7A and 7B, but we -- let's do that. Let's look at
23 Figures 7A and 7B, slide -- or it's sheet 5 of 11 in Rostoker, Exhibit 1006.
24 And when -- and when we're looking at those figures, when we're looking at
25 Antennas 704 and 724, it doesn't seem to me that they're moved off to the
26 side. It seems that they're --

1 MR. SANTARELLI: Oh, yeah. You have to look at --

2 JUDGE AMUNDSON: It sits in the center.

3 MR. SANTARELLI: Oh, yeah. Okay. I'm sorry. Finish.

4 JUDGE AMUNDSON: So yeah. So, allow me -- allow me to
5 try to get it out in one breath. So it seems to me that Antenna 704 and 724 in
6 Figure 7A and 7B are not moved off to the side. They're sort of in the center
7 of the chip. So, could you address that?

8 MR. SANTARELLI: Yeah, sure. So you're right, they are.
9 But Rostoker says that could be a problem because there's -- it doesn't show
10 it in Figure 7A, but there's circuitry in the middle there, you know,
11 surrounded, you know, by those two antennas. And if you look at our Slide
12 20, and actually 21 is -- can be similar. But Slide 20 shows -- says, hey, it
13 could be a problem that that antenna in 7A and I don't -- they talk about this
14 problem with relation to Figure 1, I think. But they're saying that could be a
15 problem because it could interfere with circuitry that's sort of in the middle
16 of the antenna.

17 So a solution to that is to move the antenna down into the
18 corner, like shown in Figure 2, which is our Slide 20 on our exhibits, it's
19 saying, you know, putting Taniguchi just onto the chip like they have it
20 drawn, Intel has it drawn, it causes the same problem.

21 JUDGE AMUNDSON: All right. I think I understand. Thank
22 you.

23 JUDGE CASS: Okay. Counsel, I think we're out of time, so
24 thank you very much. And with that, I think that will bring our hearing to a
25 close. Thank you very much to both Counsels for your well organized

1 presentations. It's clear that you put a lot of work into them, and we really
2 appreciate the work that you did.

3 We will issue an opinion in due course. Are there any other
4 procedural matters from any of the Counsel that need to be raised?

5 MS. LAROCHELLE: Nothing from Petitioner. Thank you,
6 Your Honor.

7 MR. WARR: Nothing from Ericsson, Your Honor.

8 JUDGE CASS: All right. That's great. So as I said, we will
9 issue an opinion in due course. And thank you, again, very much. We're
10 going to adjourn the hearing.

11 (Whereupon, the above-entitled matter went off the record at
12 3:25 p.m.)

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