UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

SPRINT SPECTRUM L.P.,
Petitioner,

v.

GENERAL ACCESS SOLUTIONS, LTD.,
Patent Owner.

---

Cases
IPR2017-01885 (Patent 7,173,916 B2)
IPR2017-01887 (Patent 6,891,810 B2)
IPR2017-01889 (Patent 7,230,931 B2)

---

Record of Oral Hearing
Held: December 6, 2018

---

Before MELISSA A. HAAPALA, *Acting Vice Chief Administrative Patent Judge*, and KALYAN K. DESHPANDE and DAVID M. KOHUT, *Administrative Patent Judges.*

IPR2017-01885 (Patent 7,173,916 B2)
IPR2017-01887 (Patent 6,891,810 B2)
IPR2017-01889 (Patent 7,230,931 B2)

APPEARANCES:
ON BEHALF OF THE PETITIONER:
ROBERT C. HILTON, ESQUIRE
JASON W. COOK, ESQUIRE
McGuire Woods LLP
2000 McKinney Avenue
Suite 1400
Dallas, Texas 75201
ON BEHALF OF PATENT OWNER:
RICHARD T. McCAULLEY, JR., ESQUIRE
ANTHONY DOWELL, ESQUIRE
McCaulley Dowell
550 W. Washington Boulevard
Suite 201
Chicago, Illinois 60661

The above-entitled matter came on for hearing on Thursday, December 6, 2018, commencing at 10:29 a.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia.



PETITIONER VERIZON
EX. 1015

P R O C E E D I N G S

1 - - - - -

2 JUDGE DESHPANDE: Good morning, everybody. We're here
3 for IPR2017-01885, -01887, -01889, Sprint Spectrum versus General Access
4 Solutions. Could we have our appearances first? Who do we have for
5 Petitioner?
6 MR. HILTON: Your Honor, for Petitioner my name is Robert
7 Hilton from McGuire Woods and this is my colleague, Jason Cook.
8 JUDGE DESHPANDE: Great. And for Patent Owner?
9 MR. DOWELL: For Patent Owner, Anthony Dowell and my
10 partner, Rick McCaulley.
11 JUDGE DESHPANDE: Okay. Great. We outlined in our Trial
12 Hearing Order the procedure for today. Petitioner will present first, as
13 Petitioner bears the burden of proof. The Petitioner may reserve half of its
14 time for rebuttal, Patent Owner may present after Petitioner and whatever
15 remaining time you may use for sur-rebuttal.
16 Please just be sure that we do have a remote judge, so when you
17 speak, if you don't speak into a microphone, he can't hear you. And for the
18 same reasons if you're on a demonstrative slide, please identify what
19 demonstrative slide you're on. If you're in the record, what paper and page
20 number you're in the record. That will help us get a clear transcript for today
21 and that will also help our remote judge for being able to follow us.
22 If no one has any questions, Petitioner, you may present first.



PETITIONER VERIZON
EX. 1015

1 I think we set up that you have 90 minutes to present in any order
2 you want, any of the three cases. Does that sound --
3 MR. HILTON: That sounds great.
4 JUDGE DESHPANDE: Is that everyone's understanding?
5 MR. COOK: Yes, Your Honor.
6 MR. HILTON: Good morning, Your Honor. Can I -- do I need to
7 reserve time for the rebuttal or just whatever is left we'll deal with it.
8 JUDGE DESHPANDE: You can do either.
9 MR. HILTON: Okay. Probably I'd like to reserve --
10 JUDGE DESHPANDE: If you reserve, I'll give a warning as to
11 when you're approaching that point.
12 MR. HILTON: So 30 minutes for rebuttal.
13 So may it please the Board. So we're here today to discuss the
14 IPRs for 1885, 1887 and 1889. I'd like to first turn to slide 3 of our
15 demonstratives, and this slide actually illustrates the grounds for the 1885
16 and 1887 IPRs. So there's many issues and moving parts with related -- or
17 that are related to the disputes are the issues in dispute here.
18 The Patent Owner has attempted to swear behind the Ahy
19 reference and in doing so has submitted over 450 exhibits that purport to
20 show prior conception and diligence. Patent Owner has also questioned the
21 publication date of Klein and Sanders. We believe the 1885 and the 1887
22 IPRs are easily and almost completely resolved for two reasons. There's no



PETITIONER VERIZON
EX. 1015

1 proof of conception by Patent Owner and based on the public availability of
2 Klein and Sanders in early 2000.
3 So let's turn to slide 7. I'd first like to address the conception issue.
4 So the Patent Owner can't prove an earlier date of conception in this case,
5 because the finding would conflict with the inventorship of the two patents.
6 Slide 7 shows a general timeline associated with the conception claim. Mr.
7 Struhsaker was one of three inventors of the '916 and the '810 patents. The
8 Patent Owner filed a declaration by Mr. Struhsaker in the IPRs testifying
9 that every claim of the '916 and every claim of the '810 were conceived on
10 May 24, 2000 in an investor presentation.
11 The '916 and '810 patents each had two additional inventors
12 named. One was Mr. Nelson and one was Mr. McKown. Neither of these
13 other two inventors were asked to testify by the Patent Owner in this
14 proceeding, only Mr. Struhsaker. One of the other inventors joined Raze,
15 which is the predecessor company to General Access in September 2000,
16 and the other joined in October 2000.
17 JUDGE HAAPALA: Counsel, can I interrupt you for a second?
18 MR. HILTON: Yes.
19 JUDGE HAAPALA: An inventor of a patent doesn't have to be an
20 inventor in all the claims, is that your understanding?
21 MR. HILTON: That's correct.
22 JUDGE HAAPALA: So why is it important that only one inventor
23 has a declaration?



PETITIONER VERIZON
EX. 1015

1 MR. HILTON: Well, the burden of proof here is on the Patent
2 Owner to show conception, and the Patent Owner has actually said in this
3 case that conception was shown for every one of these claims back on May
4 24, 2000, which was three to four months before the inventor, Mr.
5 Struhsaker, even met the other two inventors. And at the time that -- at the
6 time this patent application was filed, all of the inventors in the case made a
7 contemporaneous filing of the declaration that said that they all reviewed the
8 claims of the application and that they were all inventors of those claims.
9 Now, it's true, as you point out, that they don't have to be an
10 inventor on every one of the claims but only one, but this conflicting
11 information between Mr. Struhsaker saying that he conceived of all of the
12 claims back in May and the other inventors being involved in the application
13 when it was actually filed later, this conflicting information can't be resolved
14 here.
15 JUDGE HAAPALA: But isn't the issue before us whether there
16 was conception and not -- and asking whether we need to reach an issue of
17 improper inventorship or even whether we could?
18 MR. HILTON: Well, so our argument is actually that the Board
19 cannot reach a finding of improper inventorship. And because of this issue
20 that's unresolvable that they can't prove conception because there's
21 conflicting data here. The Board can't reach a decision, one, because there
22 have been other boards that have said that consideration and correction --



PETITIONER VERIZON
EX. 1015

1 actually correction of inventorship is outside the scope of an IPR
2 proceeding.
3 But, second, and I think even more importantly is that in order for
4 inventorship to be corrected, there have to be facts that are presented by the
5 inventors, all the inventors. In order to have the finding of -- that
6 inventorship is wrong and that it needs to be corrected, a patentee has to
7 actually submit statements from all the inventors with all of them agreeing to
8 the new inventive entity, if you will, and who the inventors are. Patent
9 Owner hasn't done that in this case. They only raised the inventorship
10 possibly being a wrong issue in their Sur-Reply.
11 JUDGE HAAPALA: So I agree with you that we can't reach the
12 inventorship issue. And with that in mind, then, why isn't it sufficient for us
13 to look for conception from at least one of the named inventors? I think I'm
14 not understanding your argument as to why we would need to determine that
15 the claims of -- had a conception date involving all of the inventors.
16 MR. HILTON: Well, again, I just think there's an unresolvable
17 issue there, and we are going to talk further about conception with respect to
18 the purported proof that they've shown, so I am going to go into that, but we
19 just think that this is kind of a threshold issue that we can't surpass because
20 we think, one, that the Board, you know, is not in this proceeding able to
21 correct the inventorship and we think, two, with this -- you know, these dual
22 -- these dual facts, one of which says I invented all the claims on May 24,
23 2000 by myself, and then we have the conflicting evidence that when the



PETITIONER VERIZON
EX. 1015

1 patent application was filed, all three inventors said we invented at least
2 some of this together. We can't resolve it, so --
3 JUDGE HAAPALA: Are you saying that it calls into question the
4 conception evidence? Because I think there are two separate issues. You
5 know, one issue we can't reach. Another issue is we're trying to decide
6 whether there was conception as of the relevant date.
7 MR. HILTON: Well, we are calling into the -- we are calling into
8 question the conception evidence that they submitted and, again, I'm going
9 to talk about that, but I think fundamentally they still cannot show that there
10 was prior conception or prove it because of this conflicting evidence
11 associated with the other two inventors being involved.
12 JUDGE HAAPALA: You can continue.
13 MR. HILTON: Okay. So let me go ahead and discuss the more
14 detailed information about conception and why they still fail to prove
15 conception on multiple claims.
16 So if we turn to slide 8. The Patent Owner suggests that full
17 corroboration of the claimed invention isn't necessary to show conception
18 and that only enough evidence has to be present in order to determine that
19 the inventor's story is truthful. But the *REG Synthetics Fuels* case that's
20 actually cited by the Patent Owner in their Sur-Reply actually has a finding
21 that conception must include every feature or limitation of the claimed
22 invention, and I think that's a primary point of dispute here. Patent Owner
23 believes that it has, you know, shown prior conception with the evidence



PETITIONER VERIZON
EX. 1015

1 that it submitted for all of the claims, and we, on the other hand, have
2 pointed out that there are certain elements or certain limitations of the claims
3 that are not shown.
4 So let me talk a little bit about the evidence. The Patent Owner
5 presents Exhibit 2457 and Mr. Struhsaker's declaration to try and prove
6 conception. So Exhibit 2457 is a presentation that they had presented to
7 investors that shows information about a wireless access system that they
8 call the Total Access System or TAS. The TAS, though, fails to disclose the
9 modulation controller that's present in all the claims of the '916 and the '810
10 patents. So every claim of those two patents includes this requirement, and
11 that is a modulation controller determining an optimum modulation
12 configuration for each of said plurality of wireless devices.
13 So let's look at slide 9. Mr. Struhsaker identifies in this figure the
14 RF modem cards as being responsible for the modulation index for each
15 downlink transmission.
16 If we go to slide 10. This is another figure from 2457 where Mr.
17 Struhsaker points to this terminology that we've underlined, a modulation
18 index graded by link distance. The system that's disclosed in Exhibit 2457 is
19 a fixed wireless system.
20 So if we turn to slide 11, that shows a little bit better what we're
21 talking about when we say fixed. The fixed aspect of the TAS system is
22 shown here where the end user terminals are represented by these buildings
23 that have antennas on them. So those buildings are actually a fixed distance



PETITIONER VERIZON
EX. 1015

1 from the network access terminal. So it's in contrast really to a mobile
2 system where you might think about a cellphone that moves around.
3 Exhibit 2457 does not expressly mention a modulation controller
4 or that the modulation controller is responsible for determining a modulation
5 configuration. Even though this exhibit mentions a modulation index, it's
6 not necessarily the same as a modulation controller. So Petitioner's expert,
7 Mr. Proctor, testified to the significance of the modulation index that's
8 shown in Exhibit 2457.
9 If we turn back to slide 10. The modulation index it says is graded
10 by link distance and is also shown as being varied based on the frequency
11 band of operations. However, as pointed out by Mr. Proctor, it would have
12 been evident to a person of ordinary skill in the art in a fixed wireless system
13 that the link distance would be computed when they were initially setting up
14 the end user terminal, and the modulation index could then be configured
15 manually based on the computed distance between the terminal and the base
16 station.
17 Mr. Proctor further testified that manual configuration of
18 modulation index was an approach that was known at the time. Since there's
19 no mention of an actual modulation controller and since it would have been
20 reasonable to configure the modulation manually, the controller would not
21 necessarily be a part of the TAS system. So it's our contention that the
22 controller is not shown in this exhibit.



PETITIONER VERIZON
EX. 1015

1 If we turn to slide 13. So all the claims of the '916 and '810 also
2 require that the modulation controller determines an optimum modulation
3 configuration. This reference does not discuss or disclose an optimum
4 metric for determining modulation configuration. It only discloses the index
5 that's based on a link distance and frequency band.
6 So, again, Mr. Proctor here talked a little bit about what
7 optimization is like, and he said that a person of ordinary skill in the art
8 would understand that link distance and frequency band are two fixed
9 parameters and don't -- they don't relate to the optimization of a particular
10 channel in a fixed wireless system. He said that only a course
11 approximation could be made based on those parameters because there's
12 other parameters outside of the distance and the frequency that would have
13 to be taken into account to truly optimize the modulation.
14 He mentioned some of these factors to include interference,
15 atmospheric attenuation, multipath fading, shadow fading. It's these factors
16 that would dictate how you are actually going to optimize a modulation.
17 To illustrate this, even if there were two end terminals that were
18 the same fixed distance from the base station, the optimum modulation
19 configuration would likely be different for each one of those, even though
20 they're the same distance away. You know, putting it in perspective here, if
21 we had the base station sitting here in this conference room and we had a
22 subscriber a mile to the east and a subscriber a mile to the west, you know,
23 thus a fixed distance, we would have to do different things to actually



PETITIONER VERIZON
EX. 1015

1 optimize the modulation between here and there, depending on which
2 direction we're going because of the presence of buildings, maybe
3 differences in the atmosphere and just generally how the signal would travel
4 through space to get to that point.
5 So to summarize on 2457, again, optimization is not shown, a
6 modulation controller is not shown, certainly not a modulation controller
7 that determines modulation configuration. So there is other evidence that
8 gets cited by the Patent Owner that supports conception, and I just want to
9 briefly talk about that.
10 If we turn to slide 20. Their Sur-Reply points to Exhibits 2464 and
11 2471 as also showing conception. I want to go ahead and address these
12 because Petitioner was not permitted to file a response to a Sur-Reply, but
13 2464 was actually cited by the Patent Owner because it adds this phrase
14 higher power and modulation complexity.
15 JUDGE HAAPALA: Can I interrupt you for a second?
16 MR. HILTON: Yes, ma'am.
17 JUDGE HAAPALA: Did you ask to file a response to the
18 Sur-Reply after you saw it?
19 MR. HILTON: No, we did not.
20 JUDGE HAAPALA: Thank you.
21 MR. HILTON: 2464 adds a phrase to one of the figures that was
22 present in 2457. The phrase was added to slide 20 and it says higher power



PETITIONER VERIZON
EX. 1015

1 and modulation complexity can be supported. Patent Owner suggests that
2 this is additional evidence of the fact that there was a modulation controller.
3 The thing we want to point out about 2464, though, is that the
4 metadata associated with this that Patent Owner provided indicates that 2464
5 was last modified on August 9, 2000, and that actually after the July 21,
6 2000 filing date of Ahy. So this exhibit can't be used to bolster conception.
7 Again, they also point to Exhibit 2471, which is an e-mail that
8 includes mention of the modulation index. Here, though, this really adds
9 nothing to Exhibit 2457 since it still fails to show that there was actually a
10 modulation controller involved or that there were some consideration of
11 these channel conditions in order to optimize.
12 So let me turn to diligence because we also believe that Patent
13 Owner has not proven diligence.
14 JUDGE DESHPANDE: Just one question, with conception is it --
15 your argument is that the only reason why conception is not showing is that
16 there is no modulation controller, right, that's not -- it's not based on the type
17 of modulation controller or whether there's an RF modem. It's just the
18 modulation controller is not present.
19 MR. HILTON: Well, so our argument -- I mean, first of all, we
20 have more extensive briefing in the record, but our argument with respect to
21 conception besides the inventorship issues that we raised are that all of those
22 claims require at least a modulation controller and optimization, and neither
23 one of those things is present.



PETITIONER VERIZON
EX. 1015

1 Now, I didn't plan on presenting this today, just because of the
2 level of depth that we would be going into, but we also challenged whether
3 or not they showed multiple limitations from the dependent claims in each
4 one of those applications or patents. You know, so it's not just that, but
5 those are common limitations to every claim in both of those patents.
6 So if we turn to slide 7. Again, this is our timeline that shows the
7 conception period, but it also shows the diligence period, and the diligence
8 period here would have been over seven months between the filing date of
9 Ahy and the priority date of the '810 and '916. So in an attempt to show
10 diligence, the Patent Owner submitted 425 weekly reports that supposedly
11 show various employees' work during the diligence period. They attempt to
12 broadly explain the significance of these reports as demonstrating work on
13 the TAS project by the employees of Raze.
14 If we look at slide 22. However, the inventor, Mr. Struhsaker's
15 own declaration indicates that the TAS was comprised of at least three major
16 components and a multitude of minor components. So these components,
17 again, are illustrated in this figure on slide 22, and this figure is from Exhibit
18 2457.
19 It was only the remote modem array that contained the RF modem
20 modules that Mr. Struhsaker identified as embodying the claimed invention
21 of the '916 and the '810. This is important. Patent Owner's weekly reports
22 show work by the employees on the broader aspects of the TAS system, but
23 the Patent Owner summarily concludes that this demonstrates diligence on



PETITIONER VERIZON
EX. 1015

1 the narrower inventions that are claimed by the '916 and the '810, but this
2 isn't correct.
3 An analogous situation here would be if Chevrolet decided to
4 design a new Corvette, and part of the new project included a new -- let's say
5 a new heated side view mirror. It would be improper to suggest that the
6 company's work on other parts of the corvette could be used to bolster proof
7 of diligence with respect to that side view mirror. The Patent Owner hadn't
8 made any attempts to distinguish or specify which aspects of the weekly
9 reports represent work on the claimed inventions as opposed to other
10 components associated with TAS.
11 To further illustrate the gap here between the broader TAS system
12 and the claimed inventions, the company -- and this is shown in slide 22.
13 The company filed 17 patent applications on the same day as the application
14 that eventually became the '916 patent, and each one of these applications
15 dealt with some aspect of the TAS project.
16 So I earlier stated that there were two findings that could resolve
17 most of the issues in the 1885 and the 1887, the first being the lack of proof
18 of conception, obviously diligence as well. The second issue, though,
19 pertains to the public availability of Klein and Sanders. Both of these
20 references have a publication date prior to the priority date of the '916 and
21 the '810 patents.
22 So what are Klein and Sanders? So both Klein and Sanders were
23 submissions that were made to the 802.16 working group of IEEE, which



PETITIONER VERIZON
EX. 1015

1 was formed to develop a wireless communication standard that ended up
2 being called WiMAX.
3 If we turn to slide 26. This shows a timeline with respect to the
4 '916 and the '810 priority date, the alleged conception date, but it also shows
5 the evidence proving an early 2000 publication of Klein and Sanders. Klein
6 and Sanders both include an IEEE cover sheet that lists among other things
7 the date that the references were submitted for consideration of the 802.16
8 working group.
9 The date on Klein is January 18 and the date listed as being
10 submitted for -- I'm sorry, I misspoke. The Sanders publication indicates
11 that it was submitted on 12/24/99 and the Klein submission was submitted
12 on January 5, 2000. So that's kind of a starting point. We actually presented
13 testimony from Dr. Hall-Ellis who's a librarian. She testified that both Klein
14 and Sanders were available through the IEEE Standards Catalog and that the
15 catalog was published in spring 2000.
16 So after we submitted that and there was institution, the Patent
17 Owner filed an objection as to the admissibility of the Hall-Ellis declaration.
18 In response to that, we submitted supplemental evidence, which was a
19 declaration and a web page from the Internet archive that shows an agenda
20 for the Session 5 meeting of the 802.16 working group.
21 This web page was actually captured by the Internet archive, which
22 is also known as the Wayback machine, on February 29, 2000. It shows that
23 Klein was to be presented on Wednesday and Sanders was to be presented



PETITIONER VERIZON
EX. 1015

1 on Thursday of the week that involved the Session 5. The captured web
2 page also included links to the submissions that were to be considered,
3 including Klein and Sanders.
4 Further support, though, for the public availability of Klein and
5 Sanders comes from Mr. Struhsaker himself, though. Mr. Struhsaker's
6 testimony indisputably proves that Klein and Sanders were available in early
7 2000. So I want to talk a little bit about what Mr. Struhsaker said and how
8 he was involved with the 802.16 working group.
9 MR. McCAULLEY: Your Honors, I don't want to object, but this
10 is all subject to our Motion to Strike and I don't want there to be any
11 argument that I'm not objecting. I've waived all of our objections as to that
12 and in our Motion to Strike all the evidence and all the things that Mr. Hilton
13 is referring to and I'm very sorry for interrupting, I apologize.
14 MR. HILTON: So Mr. Struhsaker was a vice chair of the 802.16
15 working group at the time that Klein and Sanders were submitted to the
16 group. In general, the people that attended the 802.16 working group were
17 employees of various companies in the industry, and they'd get together and
18 consider submissions and documents related to the proposed standard.
19 These people were often leaders in the industry, and Mr.
20 Struhsaker testified that submissions to this working group were made
21 without any obligation or reservation of confidentiality. Before each
22 meeting, working group members would distribute any submissions or
23 proposals that they intended to discuss at the meeting. Mr. Struhsaker



PETITIONER VERIZON
EX. 1015

1 further testified that all members of the working group, including himself,
2 received copies of every submission that was submitted by working group
3 members.
4 During his deposition, Mr. Struhsaker testified that he attended the
5 Session 5 meeting. He actually -- he remembered it. He attended it and it
6 was January 10 through 14 of 2000, and he further testified that he
7 remembered receiving and reviewing Klein as a working group submission
8 in early 2000.
9 Now, Mr. Struhsaker did not specifically recall the Sanders
10 document, but he did acknowledge that Mr. Sanders was a part of the
11 working group and, again, he confirmed that he and other members would
12 have received a copy of any submissions that were submitted to the working
13 group. One of the most important items, though, of Mr. Struhsaker's
14 testimony is his affirmation, though, that 802.16 meetings were open to
15 anyone and there was no obligation of confidentiality or restrictions about
16 sharing submissions with others outside the group.
17 So a final piece of evidence that we show on this timeline on slide
18 26 is the declaration of Christina Boyce. Ms. Boyce is a director at IEEE,
19 and she indicated that the earliest record IEEE has of uploading both Klein
20 and Sanders to the working group website is November 21, 2000. While this
21 is later in the year, it still predates the earliest priority date of the '916 and
22 the '810.



PETITIONER VERIZON
EX. 1015

1 All of these pieces of evidence point to the same thing, and that is
2 the public availability of Klein and Sanders through IEEE and the working
3 group in early 2000 or at least as early as November 2000.
4 JUDGE DESHPANDE: Counsel, your opposing counsel sort of
5 raised concerns that this document was not included in the IEEE catalog.
6 When you presented -- did you present any of your witnesses this
7 information, was there any way to establish whether this document was --
8 why it was not in the catalog?
9 MR. HILTON: So she -- Dr. Hall-Ellis submitted her declaration.
10 We did not provide rebuttal testimony as to what they submitted saying that
11 it wasn't in the catalog. You know, we still stand behind the fact that she
12 submitted this declaration and that she testified as to the availability of the
13 Standards Catalog and that it would have been available through the catalog,
14 but we did not provide any supplemental -- I'm sorry, we did -- what we
15 provided was supplemental evidence with respect to the Wayback machine
16 and the Internet archive data to further back up the claim that this was
17 available in early 2000.
18 JUDGE DESHPANDE: Well, was this evidence, I think Patent
19 Owner has uploaded as Exhibit 2452? Was this presented to Struhsaker or
20 Christina Boyce?
21 MR. HILTON: Which, 2452 --
22 JUDGE DESHPANDE: That's the 2000 IEEE catalog.



PETITIONER VERIZON
EX. 1015

1 MR. HILTON: That was not presented to -- it was not presented to
2 Ms. Boyce. I'm not sure about Mr. Struhsaker.
3 JUDGE DESHPANDE: Okay.
4 MR. HILTON: But, you know, again with respect to Mr.
5 Struhsaker, our deposition with him was mainly meant to -- was meant to,
6 you know, dig deeper into this issue that he was actually a part of the
7 working group that both of these references were submitted to. And he was
8 not only a part of it, he was vice chair of it and he specifically remembered
9 one of the references from early 2000, which supports both the date that's on
10 the reference itself, the date of submission, but it also supports the Wayback
11 machine capture of the web page that says that those particular submissions
12 were discussed at the Session 5 meeting.
13 So everything that Mr. Struhsaker said really corroborated, you
14 know, an early 2000 availability for both of these references. So this is even
15 -- even if the declaration of Dr. Hall-Ellis is, you know, not taken to proof
16 the publication dates here, this other evidence that we submitted as
17 supplemental evidence clearly shows that it was available in early 2000.
18 So since the Patent Owner never disputed the actual teachings of
19 Klein and Sanders, their public availability results in Petitioner prevailing on
20 the entirety of Ground 2 in the 1885 IPR and the entirety of Grounds 2
21 through 4 in the 1887 IPR.
22 Just to summarize before I turn to the next point of discussion, so
23 with respect to conception and diligence not being shown and the Klein and



PETITIONER VERIZON
EX. 1015

1 Sanders references being shown to be publicly available, in summary, the
2 1887 IPR is completely resolved and would be resolved in favor of
3 Petitioner prevailing with respect to all grounds since the Patent Owner is
4 unable to swear behind Ahy and Klein and Sanders were available.
5 The 1885 is almost completely resolved. There's two remaining
6 issues in one of the grounds, and that is Claims 8 and 16 and the disclosure
7 by Ahy, so I'd like to turn to that real quickly.
8 JUDGE HAAPALA: Counsel, are you going to talk at all about
9 your argument that Ahy has an earlier date, or are you resting on your briefs
10 for that?
11 MR. HILTON: Well, I've relied mainly on the briefs for that, but I
12 can -- I can go ahead and address that as well.
13 If we look at slide 23. So our contention is that Ahy is actually
14 entitled to that earlier priority date of the parent. Ahy -- the Ahy parent -- by
15 the way, we call the Ahy '384 and the child as Ahy '133. The child has a
16 filing date July 21, 2000. The parent goes back to 12/30/99. You know,
17 even if the Board felt that they adequately showed conception and diligence,
18 we still feel that we have adequately shown a connection between the filing
19 date of -- I'm sorry, a connection between the child Ahy, Ahy '133, and the
20 Ahy '384.
21 What I can't go into in detail is the level of information that we
22 presented showing that the invalidating disclosure from the Ahy '133 was
23 actually in and supported by the Ahy '384. We provided that in our Reply.



PETITIONER VERIZON
EX. 1015

1 We discussed -- primarily we referred to Mr. Proctor's supplemental
2 declaration where he then considered whether or not the invalidating
3 disclosure that we relied on in the Ahy '133 in the Petition, whether or not it
4 was supported by the Ahy '384. We provided a chart that showed
5 cross-referencing between various parts of the disclosure. Unfortunately,
6 you know, in a Reply being that the page numbers are limited, we couldn't
7 provide the level of analysis and text in the Reply itself that would have
8 been contained in the Petition, but we feel that we did adequately do that.
9 So there's been some dispute between the parties as to what's
10 required to show that prior priority date, and there's two things that are
11 required to show. First, you're required to show that there is some link of
12 priority between the two. And the way that we couch this in our Reply is
13 that we would be required to show that at least one claim from the Ahy '133
14 is supported by the Ahy '384 parent, okay, that there was written description
15 support for that.
16 The other thing that's required is you have to show that the
17 invalidating disclosure in the reference, the reference being Ahy '133, must
18 have been carried forward from its parent application.
19 JUDGE HAAPALA: Because my understanding is Ahy '133 is a
20 continuation in part of the Ahy '384 patent, so it would -- in my opinion it
21 would not be sufficient for you to just show one claim was supported.
22 You're contending that you did show that the invalidating disclosure that
23 you're relying on was also in the parent; is that right?



PETITIONER VERIZON
EX. 1015

1 MR. HILTON: That's right. I mean, our position is all you have to
2 do is show that there is that priority link between the two applications. In
3 other words, there some basis for priority between these two. It's true that in
4 a CIP, you know, by definition there is likely to be claims that aren't
5 necessarily covered by the parent. But the most important consideration
6 here, once that link is established and that there is valid priority between the
7 two, the most important thing is that the disclosure and the invalidating
8 disclosure is actually contained in that Ahy '384, and that's what we've tried
9 to show.
10 Now, we've disputed over that one claim versus multiple claims
11 the -- we both have cited the *Dynamic Drinkware* case on this issue. The
12 Patent Owner keys into the fact that when the court addresses claims, they
13 address Board claims, plural, that the claims must be supported by the prior,
14 but I believe that a reading of this case is that the court was trying to show
15 that you have to establish some priority link between the later filed
16 application and the parent.
17 Here, in *Dynamic Drinkware* it was a provisional application and it
18 was then the child -- or not the child, but the non-provisional from that
19 provisional and they had shown no link between those two documents. They
20 had not shown at all that any of the claims from the non-provisional were
21 supported by the provisional disclosure. So they had not shown a priority
22 link at all.



PETITIONER VERIZON
EX. 1015

1 So I think the fact that the court said the claims, I believe that what
2 they were really saying is that you have to show this priority link, because
3 the most important thing, again, is showing that the invalidating disclosure is
4 actually included in the parent application.
5 So I want to turn back to slide 27 and a discussion of Claims 8 and
6 16 of the '916 patent. So 8 and 16 require a beam forming limitation that we
7 believe is disclosed by -- specifically the claims require wherein said first
8 modulation configuration comprises a first physical beam forming technique
9 and said second modulation configuration comprises a different second
10 physical beam forming technique.
11 I want to point out that in the original Institution Decision the
12 Board found that Petitioner demonstrated a reasonable likelihood of
13 prevailing on this issue as to Ahy. The Patent Owner's argument on beam
14 forming relies on additional information that it's reading into the claims.
15 They say that beam forming requires an exchange of information between
16 the base station and the subscriber to determine optimal settings for an
17 antenna, including its signal characteristics, but this additional language isn't
18 found in the claims and it's not even discussed in the specification of the
19 '916.
20 Ahy, though, unquestionably discloses 8 and 16, the beam forming
21 limitation. Ahy discloses an antenna selection and describes how it may
22 involve the use of multiple antennas. More specifically, it mentions that



PETITIONER VERIZON
EX. 1015

1 there's an antenna selection parameter which includes a choice of antenna at
2 both the base station and the CPE, the CPE being the subscriber.
3 Mr. Proctor testified that the antennas in Ahy each constitute a
4 physical beam forming technique and that selection of different sets of
5 combinations of antennas will result in different coverage patterns and it will
6 also result in different physical beam forming techniques. Further, Ahy
7 itself actually -- it actually says that the antenna selection parameter allows
8 the BSC, the base station, to optimize a communication link with a selected
9 CPE in response to both interference effects and multipath effects. This is
10 beam forming of what Ahy is teaching here.
11 So I'd like to go ahead and turn in the last 15 minutes to
12 IPR2017-1889. So let's go to slide 31. There are only two disputed issues
13 as to the '931 patent. The first issue pertains to the limitations of Claims 2,
14 11 and 20 that require a beam map and scanning beam information. The
15 second relates to the limitations of Claims 28 and 29.
16 So the Patent Owner has not attempted in the 1889 IPR to swear
17 behind any of the prior art references. In fact, the Patent Owner even
18 conceded in this IPR that Claims 1, 10 and 19 of the '931 are unpatentable.
19 So I want to talk a little bit about Vornefeld first, so let's turn to
20 slide 32. So Vornefeld teaches this limited -- discloses this limitation. The
21 disputed limitations specifically from these Claims 2, 11 and 20 is a beam
22 map containing scanning beam information usable by said wireless access
23 devices to detect said directed scanning beam signals.



PETITIONER VERIZON
EX. 1015

1 So the Board did not side with Petitioner in its Institution Decision
2 as to these claims. While we respectfully disagree with the Board's initial
3 finding, we believe that you have an opportunity here to consider additional
4 information following the depositions of Mr. Humphrey and Mr. Proctor.
5 So Vornefeld, in general, is a magazine article and it addresses
6 space division multiple access techniques. That's SDMA techniques in a
7 wireless ATM system. At its most basic level, this type of system has a base
8 station that is communicating with multiple subscribers. Among the
9 concepts that are described in Vornefeld are those of reusing transmission
10 frequencies at appropriate geometric intervals, okay, determined by the
11 propagation attenuation of electromagnetic waves.
12 Put more simply, Vornefeld describes a smart antenna that includes
13 multiple antenna elements so that different subscribers can be served on the
14 same frequency channel at the same time. So basically what it's describing
15 is multiple antenna elements that, you know, geographically direct beams to
16 different subscribers. And based on that, they can use the same frequency,
17 even at the same time. This is beam forming where beams are specifically
18 directed at a particular subscriber in the spatial domain.
19 So I want to look at Figure 3 of Vornefeld, and that is on the slide
20 32. This is a graphical representation of a MAC frame that's shown in a
21 spatial domain. We know it's spatial domain because it's on the right side of
22 that figure. It illustrates the line for the spatial domain. The frame starts
23 over at the left with two broadcast channels, the BCH and the FCH. This



PETITIONER VERIZON
EX. 1015

figure is straight from Vornefeld. You can't exactly see the BCH, but it's made clear from the disclosure that that first block in the frame is a BCH, first channel that is, but the BCH and the FCH, as you'll see, they both go across the entire spatial domain.

JUDGE HAAPALA: Counsel, I'm going to interrupt you for a minute because I understand your argument that because this figure shows them not separated that that means it must be used in a broadcast beam, but I want to ask, does Vornefeld explicitly state that a broadcast beam is used to convey the BCH and FCH information?

MR. HILTON: I believe it does. I don't have the disclosure up here with me, but --

JUDGE HAAPALA: Can you find that? Because, honestly, I don't see anything in Vornefeld that states that. If it does, I agree with you that the information is the same through the spatial domain, but I don't see where in Vornefeld it discloses that the BCH and FCH are through a broadcast beam and maybe not separately communicated with different beams. In fact, I see no disclosure that says how these are conveyed.

MR. HILTON: Is this something that I might be able to address on my rebuttal --

JUDGE HAAPALA: Yes.

MR. HILTON: -- and look at the reference?

JUDGE HAAPALA: Yes.

MR. HILTON: Okay. Thank you.



PETITIONER VERIZON
EX. 1015

1 So again, you know, I think the figure does in showing this spatial
2 domain, in showing blocks that represent multiple subscribers and how those
3 are segmented in spatial domain with respect to the subscribers, I think it
4 does show that the BCH, even in this figure, that the BCH and the FCH are
5 broadcast across the entire spatial domain. So --
6 JUDGE HAAPALA: To be clear, I'm not disagreeing that that
7 same information is communicated across the entire spatial domain. I'm
8 asking about the mechanism of that communication. Is it through a
9 broadcast beam? Is it specifically disclosed through a broadcast beam or --
10 I'm asking if there's any specific disclosure in how that information is
11 broadcast.
12 MR. HILTON: Okay. Thank you.
13 So after the broadcast part of the frame, a downlink phase, which is
14 indicated in Figure 3 includes both SCH and LCH channels that as shown
15 here are segmented in a spatial domain. In other words, these channels
16 aren't broadcast across the entire spatial domain, but, rather, they're directed
17 to individual directed scanning beams that are sent to a particular subscriber.
18 Because each of these SCH and LCH portions are transmitted in different
19 beams, the base station of Vornefeld has to inform the subscriber unit when
20 it should listen for its specific directed beam signal.
21 So 2, 11 and 20, the claims, also require that the scanning beam
22 information be usable by said wireless access devices to detect said scanning
23 beams, said directed scanning beam signals.



PETITIONER VERIZON
EX. 1015

1 JUDGE HAAPALA: I'm going to interrupt you one more time.
2 Has Petitioner offered a specific construction for beam map, not the
3 remaining part of the claim, but just the beam map portion?
4 MR. HILTON: We have not offered a specific construction for
5 that.
6 JUDGE HAAPALA: It seems to me that's a central issue to the
7 case and where the parties are disagreeing. Do you have the construction
8 that you would propose that we should use for beam map?
9 MR. HILTON: Well, I mean, so we feel that the beam map really
10 has to be informed by what is also in this claim and, you know, specifically
11 the claim says a beam map containing scanning beam information. I mean, I
12 would say that the beam map is a broadcast signal that contains information.
13 Okay. And, you know, I think that it is a broadcast signal that contains that
14 information that in this case is the scanning beam information. And again,
15 you know, when we turn to scanning beam information and what that means,
16 again, I think it's informed by the claim. Scanning beam information is
17 information that's usable by the access devices to detect the directed
18 scanning beam signal.
19 JUDGE HAAPALA: I agree that the claim requires that it has to
20 have scanning beam information to detect the directed scanning beam
21 signals. I don't know that that necessarily informs us entirely as to how we
22 should construe beam map, but I don't think that we can read out the words
23 beam map from the claim.



PETITIONER VERIZON
EX. 1015

1 MR. HILTON: Okay.
2 JUDGE KOHUT: And actually, counsel, what are you saying is
3 the beam map in Vornefeld? You're pointing to Figure 3. Is it in Figure 3 or
4 are we just --
5 MR. HILTON: Well, the beam map is this combination of the
6 BCH and the FCH, and then the information about those is contained in
7 that -- in those channels. Specifically it's contained in the FCH channel.
8 JUDGE HAAPALA: So admittedly from Vornefeld on page 54,
9 it's referring to what a BCH and FCH -- the information that they contain. It
10 says a BCH contains -- conveys signaling information concerning the whole
11 radio cell in the downlink direction and announces the location of the FCH
12 and RCH within the frame, within the actual MAC frame, and the FCH is
13 used to transmit the information about the structure of the MAC frame for
14 the up and downlink phases.
15 You can address this on rebuttal, too, if you want to, but my
16 question is where in those descriptions can we find information about it, the
17 beam, the scanning beam?
18 MR. HILTON: So specifically, again, your question is about
19 where?
20 JUDGE HAAPALA: Where in that description of BCH and FCH,
21 what part of that description is -- are you saying discloses the beam map, the
22 beam information? I see information about the structure of the frame, but



PETITIONER VERIZON
EX. 1015

I'm having -- I'm struggling to see information about any beam information in these descriptions.

MR. HILTON: Okay. I mean, I believe that the --

JUDGE HAAPALA: And, again, you can address this during rebuttal.

MR. HILTON: Okay. I'll do that.

So Mr. Proctor actually made the connection between the scanning beam information and the information that's -- that is the information required by the claim and the broadcast information in the FCH portion of the frame as a broadcast beam.

So slide 33. The FCH includes information that's sufficient to allow the subscriber units to detect the directed scanning beam signal that is sent out. Vornefeld says that the FCH transmits information about the structure of the MAC frame for the up and downlink phases and it also contains announcements and reservations of long and short transport channels that the individual MTs have to transmit or receive in.

If we turn to slide 34. Even the Patent Owner's expert, Mr. Humphrey, admitted that broadcast beam signals are basically instructing the user terminals when transmissions are scheduled for transmission. He went on to say that the user device would then wait until their scheduled transmission to receive and decode that transmission.

So the Patent Owner tries to draw a link to a specific embodiment in the '931 to support its argument that scanning beam information must



PETITIONER VERIZON
EX. 1015

1 include information about all the scanning beams used by a base station and
2 the start times for each one, but this reads into the claim a particular
3 construction that's inconsistent with other embodiments.
4 In slide 36 --
5 JUDGE DESHPANDE: Counsel, just you know that you've got
6 about two minutes remaining until -- you're free to continue on, but you'll be
7 digging into that 30-minute rebuttal you reserved.
8 MR. HILTON: Okay. Thank you.
9 Slide 36. The '931 also includes another embodiment that is not
10 highlighted by the Patent Owner that discloses the scanning beam
11 information, and this is a quote, identifies a downlink slot in the downlink
12 portion during which at least one directed scanning beam transmits the
13 downlink data traffic.
14 JUDGE HAAPALA: Counsel, I read that as a limitation, a further
15 limitation on the scanning beam information and not the beam map. Is there
16 some reason --
17 MR. HILTON: Well --
18 JUDGE HAAPALA: Because the preceding paragraph talks about
19 the beam map contains scanning beam information that includes a certain
20 amount of information, and then that paragraph that you're referring to me
21 seems to further limit what that scanning beam information contains. I don't
22 see that as a limitation on the beam map. Am I missing something there?



PETITIONER VERIZON
EX. 1015

1 MR. HILTON: Well, I mean, it is addressing the scanning beam
2 information.
3 JUDGE HAAPALA: Yes, it seems to be a further embodiment
4 further limiting information on what the scanning beam limitation contains.
5 MR. HILTON: Well, as to what that scanning beam information
6 is.
7 JUDGE HAAPALA: Yes, but I don't see it -- I don't see the link
8 between that and the beam map. Actually another question to address on
9 rebuttal, if you would please, are there any embodiments in the patent that
10 describe a beam map that do not have some link to some type of beam
11 information?
12 MR. HILTON: That don't have a link? Are you talking about in
13 the '916 or, I'm sorry, the --
14 JUDGE HAAPALA: The '931 patent.
15 MR. HILTON: The '931?
16 JUDGE HAAPALA: Because you are correct that we don't read in
17 embodiments into the claim. However, we do have to inform our analysis
18 based on what's described in the patent and if all of the embodiments
19 describe the beam map in a certain way that can inform our analysis of the
20 claim limitation. So what I'm asking for is I think this particular limitation
21 you're referring to here is in the summary and it's actually talking about
22 the -- is not talking specifically about the beam map perhaps, but maybe just



PETITIONER VERIZON
EX. 1015

1 talking about further limiting the -- sorry, yeah, the broadcast beam map is
2 what I'm looking to try to define, the beam map itself.
3 MR. HILTON: Okay.
4 JUDGE HAAPALA: Thank you.
5 MR. HILTON: Let me go ahead and I will discuss Ahy with
6 respect to this limitation and then I'll leave the discussion of the other two
7 claims, which are 28 and 29, and how they're covered by Vornefeld. I'll
8 leave that to the briefings that we've submitted, because the Patent Office
9 had found in our favor on those anyway in the Institution Decision.
10 But in Ahy slide 35, Ahy also discloses the disputed limitations of
11 2, 11 and 20. So Ahy, again, describes this antenna selection parameter that
12 selects antennas that are associated with the BSC and the CPE of Ahy. Each
13 of those things includes more than one antenna and Mr. Proctor said that the
14 antenna selection parameter is part of the broadcast beam signal and is
15 transmitted from the BSC to the CPE at the beginning of the frame.
16 Now, with respect to Ahy, we actually -- this is a combination
17 argument and the broadcast beam is actually taught by Andersson and we
18 had stated that. But not only does Ahy identify the specific beam used to
19 transmit the signal to the CPE, it also includes a value of the link of the
20 downstream payload for each CPE, thus, informing the CPE when it should
21 listen.
22 So we feel that this is scanning beam information because it is
23 usable to detect the directed scanning beam signals that are required by the



PETITIONER VERIZON
EX. 1015

1 claim. Again, you know, we think that with respect to the scanning beam
2 information that this disclosure of Ahy is analogous to the slide 36
3 embodiment that we showed earlier for the '931.
4 So I'll stop there. How much time do I have?
5 JUDGE DESHPANDE: 58 minutes. Oh, I'm sorry, 28 minutes.
6 MR. HILTON: Thank you.
7 MR. McCAULLEY: Good morning. Just a moment while we
8 transfer technology. I apologize if I make a mistake. My partner and I have
9 an Apple PC disconnect and I'm not used to working on his equipment, but I
10 think I -- he gave me a lesson last night and I think I can do it.
11 I don't think we're going to use all of our time, so we'll make the
12 transition. Thank you.
13 Good morning. And if it's permissible to the Board, I'm going to
14 argue with respect to the 885 and 887 cases and Mr. Dowell, my partner,
15 will address 889. He will also address the two beam forming claims that are
16 in the '916 patent that Patent Owner does not attempt to swear behind, if
17 that's acceptable.
18 JUDGE DESHPANDE: That's fine. Let me ask you, since you're
19 arguing the 885 and 887 with respect to the other references, I'm assuming
20 that with respect to all of the substantive arguments as to what the prior art
21 teaches, you've not raised any arguments towards those; is that correct?
22 MR. McCAULLEY: We have not raised any arguments with
23 respect to those, Your Honor. We have attacked the public accessibility,



PETITIONER VERIZON
EX. 1015

1 which I will speak about first. I'm going to take things in a slightly different
2 order than Mr. Hilton did. We attack the public availability/public access to
3 Exhibits 1005 and 1006. 1005 is only applicable to one of the two cases and
4 we've presented evidence of conception and diligence on the Ahy patent, and
5 we also intend to talk about Petitioner's claim that Ahy is entitled to an
6 earlier filing date.
7 So I'd like to address, first, with respect to Demonstrative Exhibit
8 8, I'd like to take on the Hall-Ellis issue and the issue of what Petitioner has
9 done. Petitioner offered only evidence of public availability of Exhibits
10 1005 and 1006 through the declaration that they put in from their librarian
11 witness, Dr. Hall-Ellis.
12 JUDGE HAAPALA: Counsel, please remember to refer to the
13 slide number for Judge Kohut.
14 MR. McCAULLEY: Oh, I'm sorry, I thought I did.
15 Demonstrative Exhibit 8 is what we're talking about right now, Judge Kohut.
16 I apologize if I didn't mention that.
17 JUDGE KOHUT: Thank you.
18 MR. McCAULLEY: The one sentence that Petitioner devotes in
19 the Petition for both 885 and 887 to these IEEE articles, if you will, these
20 IEEE evidence is the one statement that Klein was publicly available no later
21 than spring of 2000 and in each of the two Petitions there's a cite to the
22 paragraphs of Dr. Hall-Ellis' declaration.



PETITIONER VERIZON
EX. 1015

1 We've submitted evidence and unrebutted evidence from Dr.
2 Mullins that when you actually trace the trail that Dr. Hall-Ellis laid out, it
3 does lead you to the IEEE Standards Catalog. What it does not lead you to
4 is the two articles that they relied on in their Petition. And it's a good point,
5 it's an important point to point out, as we did in our papers, that this goes to
6 the burden of production. This is the only evidence that Petitioner put
7 forward in the Petition to establish that these two articles were prior art.
8 Everything else came later. Everything else came in response to our
9 investigation.
10 We took Dr. Hall-Ellis' declaration. We flew around the country.
11 I flew to California and we found the IEEE Standards Catalog. It's a very
12 obscure document, but it is available. It's available at one place in the
13 country, the University of Wisconsin, and there is -- these articles simply
14 aren't in there.
15 Petitioner doesn't dispute that. Petitioner doesn't fight that
16 evidence. Petitioner doesn't say Dr. Mullins is wrong. They punt. And
17 what they punt to you is the Boyce declaration, which is Exhibit 1009, which
18 was submitted as supplemental evidence Patent Owner did not move to
19 exclude. There's no basis for that evidence coming in and that evidence
20 doesn't prove anything.
21 If you decide to look at it and consider it, compare it and contrast it
22 to what Dr. Hall-Ellis said in her declaration, what Petitioner said was the
23 kind of evidence that you need to prove public accessibility. And then I'm



PETITIONER VERIZON
EX. 1015

1 referring now, Judge Kohut, to Exhibit 1007 starting at about page 13 and
2 I'm going to quickly move onto page 14.
3 But Dr. Hall-Ellis gives in her declaration an actual roadmap of the
4 kind of information that you need to prove public accessibility. Turning
5 over to page 14, there's extensive testimony about the MARC record, the
6 OCLC database, how you would trace this trail to this evidence, how a
7 person skilled in the art would find the evidence. They would follow the
8 trail that's laid out in her declaration. The unfortunate thing is she didn't do
9 that. We had to do it. We followed the trail and it leads to a dead end. And
10 so now what we've got from Petitioner is evidence that was submitted as
11 supplemental evidence we didn't move to exclude. There's no reason for it
12 to be in the case.
13 The Boyce declaration, which is Exhibit 1031, just referring over
14 to the Boyce declaration, Exhibit 1031 on page 1, the Boyce declaration in
15 and of itself does not further the inquiry. If you look at paragraph 9, it says
16 IEEE does not maintain a position as to when Exhibits A through B were
17 first published or available. There is no evidence in the record that these
18 were publicly available. There's no evidence in the record that these
19 documents were available, searchable, available to someone skilled in the art
20 who wanted to access the information.
21 We've got a Motion to Strike that's pending. We feel that this
22 evidence should be stricken. It shouldn't even be considered. If it is
23 considered, it doesn't meet the legal standard for public accessibility. The



PETITIONER VERIZON
EX. 1015

1 Hall-Ellis declaration, which is the only evidence that Petitioner relies on to
2 establish public accessibility of Exhibits 1005 and 1006 is completely
3 undercut. There's no evidence in the Petition that these articles are prior art.
4 JUDGE DESHPANDE: Counselor, what about -- let me just
5 highlight what I find alarming is that we have testimony that this paper was
6 presented at the conference and outside of the Motion to Strike we have a
7 declarant, the deposition of Mr. Struhsaker that says he saw it and he was
8 there and yet we have a catalog where it's not there and we have sort of no
9 answer from either party as to what happened. Why is it not in the catalog
10 or did he really not see it? I guess so do we have an answer to these
11 questions because I'm finding it a little alarming that it feels like two ships
12 passing in the night and no one has an answer to the story.
13 MR. McCAULLEY: Well, we have the answer. The answer is
14 that the articles, Exhibits 1005 and 1006 are not in the catalog. That's the
15 evidence we were responding to. Whether or not Mr. Struhsaker recalls
16 seeing one of these pamphlets at some point, it doesn't meet the standard for
17 public accessibility that a person skilled in the art would need to find this.
18 JUDGE DESHPANDE: I guess my question is if he was at the
19 conference and he received the paper and he saw the paper, I can't answer
20 whether it was in the catalog or not, but if it was there and it was distributed
21 and widely distributed, is that separate from the catalog information that we
22 have?



PETITIONER VERIZON
EX. 1015

1 MR. McCAULLEY: It's completely disconnected from the catalog
2 information that we have. The catalog -- the evidence that they put forward
3 is that this document was available in a database that you could search. And
4 when you followed that search with these search terms to the catalog, the
5 documents were not there. That's completely separate from Mr. Struhsaker's
6 chair of the committee, does he remember seeing one of these papers at a
7 conference? There's no connection between the catalog and Mr. Struhsaker's
8 testimony. They're completely separate. Those arguments and that evidence
9 are ships passing in the night. They're not related at all.
10 The IEEE Standards Catalog did not contain the articles. Dr.
11 Hall-Ellis made a leap of logic and didn't do an investigation and presented
12 evidence in the Petition. Because it may have been present at the -- I guess I
13 think if I'm understanding your question, Your Honor, the fact that it was
14 present at the meeting does not mean that it was present in the catalog. And,
15 in fact, the only evidence of record is that it was not in the catalog.
16 JUDGE KOHUT: Counsel, regardless of that, if it was present at
17 the meeting, was it publicly available, though?
18 MR. McCAULLEY: I don't think it meets the standard for public
19 accessibility that some people who happened to be present at the meeting
20 might have seen a copy of it, whether it was retained, whether it was --
21 there's no record of who had it, how widely it was distributed. None of that
22 is in the record that we have right now. We simply have Mr. Struhsaker
23 saying I remember seeing one of these. He was just being honest, but it



PETITIONER VERIZON
EX. 1015

1 doesn't meet the standard of someone skilled in the art would be able to
2 search for it, find it and have access to it. One person, we have evidence that
3 one person had it. That doesn't meet the standard for public accessibility.
4 I'm turning now to demonstrative slide 11, Judge Kohut, if we
5 could and I don't think that there's a disagreement about the law of
6 conception. Patent Owner embraces the fact that the inventor had to have
7 possession of all of the claim elements at the time -- prior to the critical date
8 for the prior art, in this case July 21 of 2000. What we can contest and
9 where the dispute lies is with respect to credibility corroboration.
10 Turning over now, Judge Kohut, to slide 12 of the demonstratives.
11 A rule of reason is used to assess the credibility of the inventor's testimony
12 that he or she possessed every element of the claimed invention prior to the
13 critical date for the prior art, and in this case we're swearing behind the Ahy
14 '133 date of July 21, 2000. So we look at all the pertinent evidence and we
15 examine whether or not the inventor's story is credible.
16 Now, one thing that didn't happen here is certainly Mr. Struhsaker
17 presented testimony in his declaration, Exhibit 2472, that he had conceived
18 all of the elements of the claimed invention long prior to May 24 of 2000.
19 May 24 of 2000 was the date that we had a document in the system that was
20 a business presentation that hadn't been altered after that date. So it was a
21 record that he had elements of the invention that he had the invention in his
22 possession at that time.



PETITIONER VERIZON
EX. 1015

1 And I want to stop for a moment and talk about the broader
2 context. One thing we know, Petitioner had the opportunity to
3 cross-examine Mr. Struhsaker on his conception story and you would think
4 in the normal contested proceeding that that would be something they would
5 spend a lot of time on. There was virtually no cross examination on this
6 claim that he had conceived all of the elements.
7 Instead, Petitioner tries to attack the evidence that was presented,
8 Exhibit 2457, but that exhibit, that evidence has to be looked at in the
9 broader context of the entire story. Mr. Struhsaker left his firm, left his
10 business to start this company in November of 1999, and he testified in his
11 declaration that he immediately began to reduce this invention of practice.
12 Paragraph 10 of Exhibit 2472, I conceived what we refer to as the
13 Total Access System when I started Last Mile Systems. The Total Access
14 System is described in the patents we applied for as part of the development
15 project for the companies, including the '810 and '916 patents.
16 He set out to raise money. He wasn't -- didn't have an income.
17 Mr. Eckert joined him. They didn't start the company to come up with the
18 idea. They didn't start the company to develop the idea. They had a
19 developed idea. They had a complete system that was conceived, and
20 Exhibit 2457 is one of the documents importantly that they used to raise
21 money.
22 Now, what -- I think if we look just briefly at Exhibit 2472, page
23 12 of Exhibit A, and I think I can zoom in. This is one of the figures that



PETITIONER VERIZON
EX. 1015

1 was included in the slide deck. And as Petitioner rightly points out, there
2 were versions of this document that existed. We refer to that in our
3 Sur-Reply. There are many documents -- versions of this document that
4 existed. Mr. Struhsaker testified to that. We inadvertently included in
5 Exhibit 2472, Appendix A, a picture from an earlier version, but it
6 corroborates Mr. Struhsaker's testimony that he was working on this in
7 November of 1999. He started working on this slide deck immediately.
8 That's in his deposition as well.
9 JUDGE DESHPANDE: Counsel, is any of this laid out in the
10 Response itself?
11 MR. McCAULLEY: This is actually from the Response itself,
12 Your Honor. We responded. We presented in the Patent Owner's Response
13 Mr. Struhsaker's testimony. The Petitioner came back and said there's no
14 disclosure of modulation controller and we responded to that in our
15 Sur-Reply. So it was all laid out certainly in our Sur-Reply and we laid out
16 this claim and this evidence in the Patent Owner's Response and it was
17 brought up and discussed in Mr. Struhsaker's deposition testimony, which is
18 Exhibit 1013, and just referring to, I'm sorry, Exhibit 1013, page 104. And
19 so Mr. Struhsaker testified at his deposition that the technical foundation of
20 the document, the document referring to as Exhibit 2457, was in the slide
21 deck as of November 1999. He covered that in his deposition.



PETITIONER VERIZON
EX. 1015

1 I would like to refer now to page 11 of Exhibit 2457 itself, and
2 Exhibit 2457 obviously was a document that we relied on and discussed at
3 length in the Patent Owner's Response.
4 JUDGE DESHPANDE: I guess let me be more specific with my
5 question, counsel, I see in your Response that you've sort of highlighted out
6 that Mr. Struhsaker maps the claims except for Claims 18 and 8 and 16, but
7 I'm not seeing any evidence here of a discussion that ties this back into
8 conception. Are we incorporating the exhibit into the Response or the
9 attachment to the exhibit into the Response?
10 MR. McCAULLEY: Certainly, Your Honor. That would be our
11 position. That's Patent Owner's position, yes.
12 So when we look at 2457 as a whole, 2457 certainly talks about
13 providing both voice and data to subscriber units in a TDD frame and that
14 TDD frame being made up of individual data blocks. That's referred to on
15 page 20 of Exhibit 2457. We've called that up. I'm not sure Judge Kohut
16 can see what we have on the screen.
17 So the attack that Petitioner makes on the conception evidence is
18 that there's no evidence of modulation controller, and he points to this -- they
19 point to this system and Mr. Proctor talks about the fact that this is just a
20 fixed system. This would be -- these distances would be programmed into
21 the control system and so if we knew the distance that would be a one-time
22 programming event, as we understand the argument, that the distance from
23 the subscriber to the system is known, it's constant in the depiction that's



PETITIONER VERIZON
EX. 1015

1 shown. And it being constant, there's, therefore, no need to account for
2 varying signals and, therefore, you couldn't have optimization.
3 But one of the arguments that they make is you couldn't have
4 optimization because there's no sign -- there's no indication that there's a
5 modification in the uplink as well as the downlink. And I'm having trouble
6 switching over to demonstrative 14, but in Demonstrative Exhibit 14, page
7 14, there is an indication of modification of the modulation in the uplink.
8 The two arrows to the right and the TDD channel show those two arrows
9 would indicate different modulation formats. And, I'm sorry, I'm not able to
10 get --
11 JUDGE HAAPALA: Is there any explanation of this besides the
12 figure?
13 MR. McCAULLEY: There's no explanation of it besides the
14 figure. I think that's fair.
15 JUDGE HAAPALA: Is there any testimony?
16 MR. McCAULLEY: Well, that was kind of the point that I was
17 making earlier. There were no substantial questions asked about this of Mr.
18 Struhsaker at his deposition. Petitioner ignored it. This is about credibility.
19 This is about testing his story. We made him available for a full day. They
20 took a few hours, but they didn't delve into this. They didn't ask any
21 questions. They simply rely on Mr. Proctor to say this is how someone
22 looking at this would understand it without backdropping that against the
23 fact that Mr. Struhsaker is testifying, he's had everything and this is an



PETITIONER VERIZON
EX. 1015

1 indication or a partial indication of what he had and this is a depiction of the
2 entire system. This is a depiction of a TDD frame with an uplink and a
3 downlink.
4 And if I could get this to change over -- oh, I think we've got it
5 now -- to demonstrative slide 14. There's two arrows in the uplink, two
6 arrows in the downlink and those would be indicative of different
7 modulation formats for those signals.
8 JUDGE DESHPANDE: I'm sorry, which -- this is page 14 of --
9 MR. McCAULLEY: Demonstrative 14.
10 JUDGE DESHPANDE: Demonstrative 14. And what page is it
11 of, 22, page 22 --
12 MR. McCAULLEY: Page 22 of Exhibit 2457.
13 JUDGE DESHPANDE: Okay. So which two arrows are you
14 referring to -- on the TDD channel there's two arrows.
15 MR. McCAULLEY: There's two arrows in the uplink. The green
16 arrows would indicate the uplink. I'm sorry, the two green arrows would
17 indicate the downlink. The blue arrows would indicate the uplink. So there
18 is a disclosure here of two different modulation formats in both the uplink
19 and downlink. The claims of both the '810 and the '916 patent, however,
20 only talk about modulation in the downlink.
21 JUDGE DESHPANDE: But do we have any testimony actually
22 saying that these two arrows represent a modulation?



PETITIONER VERIZON
EX. 1015

1 MR. McCAULLEY: I don't believe so, Your Honor. Well, in
2 Exhibit A Mr. Struhsaker explains it. I took testimony to mean deposition
3 testimony, I apologize.
4 JUDGE HAAPALA: Do you have the cite and where it is
5 explained in the --
6 MR. McCAULLEY: I'll get it in rebuttal, I'm sorry. And I'm not
7 certain that it specifically states that. This was an attack that was made on
8 the declaration itself and certainly it's something that we included in out
9 Sur-Reply.
10 JUDGE DESHPANDE: Wait, was this an analysis that you laid
11 out in the Response or no? We just jump to the exhibit --
12 MR. McCAULLEY: I'm not sure this is -- I don't think this is an
13 analysis we laid out. We laid out Mr. -- the declaration of Mr. Struhsaker
14 and the exhibit that he had created, Exhibit A, Attachment A to his
15 deposition and there is certainly an analysis of this in there.
16 JUDGE DESHPANDE: Is this in the Sur-Reply? I'm sorry, that's
17 what I was asking.
18 MR. McCAULLEY: It's in the Sur-Reply.
19 JUDGE DESHPANDE: It's in the Sur-Reply. Okay.
20 MR. McCAULLEY: And if I'm wrong, I'll clear it up on rebuttal,
21 but I'm fairly certain I'm correct.
22 JUDGE HAAPALA: Counsel, actually this is a point, did you
23 want us to remind you for any sur-rebuttal time?



PETITIONER VERIZON
EX. 1015

1 MR. McCAULLEY: My partner is going to remind me.
2 So I just want to go quickly to Demonstrative Exhibit 15, page 15,
3 and this is a combination of two different documents, but it's important in
4 light of the arguments that Petitioner has put forward. Exhibit 2471, which
5 was submitted with the Patent Owner's Response but not specifically
6 referred to by Mr. Struhsaker addresses the question of whether or not he
7 understood whether he had possession of the idea that these would be -- that
8 the modulation formats would be controlled and modified based on signal
9 conditions and based on noise in the system.
10 I've called out and put in a bold callout here the quote, for non-line
11 of sight and highly distorted links, we will introduce spreading using
12 orthogonal codes, and it goes on. That statement right there, which
13 Petitioner doesn't address, Mr. Proctor did testify in his declaration that he
14 considered these documents, but they didn't change his analysis. A non-line
15 of sight means you could have a different signal characteristic for two
16 subscribers that were the same distance from the base station. Non-line of
17 sight means you have some kind of interference. It could be a building. It
18 could be something else. That's what a non-line of sight signal refers to.
19 And then highly distorted link would be a link that has interference
20 characteristics.
21 Mr. Proctor testified at his deposition that these things were
22 well-known in the art. Mr. Struhsaker clearly knew about them. He was
23 making a proprietary system. It wouldn't be a system that was -- it just



PETITIONER VERIZON
EX. 1015

1 doesn't make sense that it would be a system that where distance from the
2 subscriber unit to the base station was the only thing that was going to be
3 used to link modification -- link modulation.
4 And then, more importantly, the statement down below, Petitioner
5 just refers to modulation index, but importantly it says modulation index is
6 programmable on a burst-by-burst basis. And what that refers to,
7 burst-by-burst basis is the TDD frame that's depicted on the slide is broken
8 down into data blocks as talked about in the claim, and those data blocks
9 which go to various subscribers are programmable on a burst-by-burst basis.
10 That's not a system. That's a fixed distance system. That's a
11 system that accounts for the signal characteristics that Petitioner claims
12 provide evidence that a modulation controller wasn't contemplated by Mr.
13 Struhsaker before the Ahy date. It clearly was.
14 Finally, in turning over -- on this issue turning over to Exhibit
15 2464, page 10, this is further evidence. And Petitioner rightly points out that
16 the metadata for this document indicates that somebody modified something
17 within it as of August 9 of 2000, so that's a few weeks after the critical date,
18 but importantly it does bear a date of the 12th of July of 2000 and it also
19 bears, as we point out in our Sur-Reply, several indications of
20 time-dependent signals that are being processed by the remote access, right,
21 from the subscriber stations as it indicated by H sub NT. Clearly, there were
22 different modulations, there were accounting for different signals and



PETITIONER VERIZON
EX. 1015

1 different signal strengths and noise in the signal and adapting that on a
2 burst-by-burst basis.
3 The E-mail also that we included -- I'm sorry, excuse me. Putting
4 it in context, the E-mail from July 12, Exhibit 2471 that we referred to
5 earlier was an E-mail from Mr. Struhsaker to Mr. Eckert preparing him for a
6 meeting with a fellow by the name of Doug Shultz. Doug Shultz was the
7 person who was going to be building the RF modem for the system. This is
8 the time frame at which Raze Systems got funding and they were hiring
9 people to start building. So clearly as of the time that he started to build the
10 modem, Mr. Struhsaker had possession of the idea that modulation could be
11 changed on a burst-by-burst basis.
12 I think with respect to -- moving onto diligence, with respect to
13 diligence, Petitioner is correct, we put in a lot of documents and I apologize
14 to the Board for the unwieldy nature of the file, but there is a long diligence
15 period. And I'd like to take the Corvette analogy that Mr. Hilton referred to.
16 This wasn't a system for a mirror that was going onto an existing car. This
17 was a system that was built completely for the roundup. It was a custom
18 system.
19 Both Mr. Struhsaker and Mr. Eckert testified that this was a system
20 that we were building from scratch. All of the components work together.
21 All of the components needed to be built to be tested and validated. It took a
22 long time. They knew it was going to take a long time as we referred to in
23 the Patent Owner's Response.



PETITIONER VERIZON
EX. 1015

1 The plan indicated that it was going to take 9 to 12 months or more
2 to build a prototype and that's, in fact, what happened. So we've
3 demonstrated through the weekly reports that they were working completely
4 on the system. That did include work completely on the RF modem for that
5 entire period of time, March 5, constructive reduction to practice. They
6 actually built the system some four to five months later.
7 With respect to the inventorship issue, I'll point out two things.
8 First of all, there are two claims that we don't swear behind in the '916
9 patent, and then the other issue is the 17 patents that Petitioner brought up
10 that were filed in that spring of 2001. It appears that there may have been a
11 mistake in inventorship. I'm not sure we have to correct it here. We have
12 one inventor who claims that he conceived all of the elements of the
13 invention prior to the Ahy date, and that's all that we need to do. If we need
14 to correct invention, it's not something that would be done here.
15 And then I'd like to talk about, finally, the Ahy '133 and whether
16 it's entitled to the filing date of '384. As the Board will recall, Petitioner
17 moved to add supplemental information, the '384 patent, after Patent Owner
18 indicated that it intended to swear behind the Ahy reference.
19 I think there's a few things that are very important to point out.
20 The Ahy '133 is, as Your Honors pointed out, a CIP application. So the
21 inventors of the Ahy patent themselves have taken the position before the
22 public and the Patent Office that there's new matter in the Ahy '133 patent.



PETITIONER VERIZON
EX. 1015

1 Mr. Proctor provides no analysis of how the arguments from the --
2 of the arguments that were presented in the Petition are supported by the
3 '384. He simply compares and contrasts or provides a chart that has
4 evidence or cites from the '133 patent and cites from the '384 patent. There's
5 no analysis and he admitted that he didn't do analysis. He didn't provide any
6 analysis of how his original arguments are completely supported by the
7 subject matter that is contained in the '384 patent. He also admitted at his
8 deposition, Exhibit 2480 at the bottom of page 21, carried over to the top of
9 page 22, that he did not do any analysis of what new matter exists in the '133
10 patent.
11 If we look at the statement of the law that Petitioner puts forward,
12 and I'm looking at Petitioner's demonstrative exhibit at page 24, Petitioner
13 says that the legal requirement has two prongs. Number one, the parent
14 patent must provide written description support for at least one claim of the
15 reference. They cite to *Dynamic Drinkware* and they cite to Giacomini.
16 I read those cases carefully. There is no statement that the
17 standard, the burden -- *Drinkware* calls it the burden, the Drinkware decision
18 from the Federal Circuit, is to provide support for the claims. Here, we have
19 a CIP. We have a presumption that there's new matter. What does it tell us
20 that one claim perhaps may be supported by the earlier patent. It tells us
21 nothing. The analysis are all 52 claims supported by the earlier disclosure.
22 We don't have any analysis of that. Petitioner hasn't done that.



PETITIONER VERIZON
EX. 1015

1 JUDGE HAAPALA: Counsel, we do have a chart, though,
2 mapping the -- are you pointing out any deficiency in that chart other than
3 that there was no analysis?
4 MR. McCAULLEY: I will intend to -- I intend to point some of
5 that out, Your Honor. Thank you.
6 We have the chart, but that chart would go, Your Honor, not to
7 support for the claims of Ahy '133 and the '384. It goes to the second prong
8 as to whether or not this is allegedly carried forward, the invalidating
9 disclosure. All we have from the Petitioner is one page of analysis. It
10 doesn't talk about the claims and cites to the declaration of Proctor, which
11 cites to a chart that cuts and pastes, and I will talk about some specific
12 things, but I'm into a gray veil. I have to guess at how they're interpreting it.
13 I have to guess at how they're implying it. That's fundamentally unfair. I
14 shouldn't have to do that. It's their burden and they haven't carried it.
15 And I haven't tried to point out every difference, but I think there's
16 an important difference about Ahy '384 and Ahy '133 and what was added to
17 the disclosure and, more importantly, what Petitioner relied on that was
18 added to the disclosure. And I would direct -- I have the reference to cite to
19 the '810 patent. But if you look at the '810 patent at pages 23, 24 and 25,
20 that deals with what the claims require is -- perhaps I can pull up Claim 1 of
21 the '810 patent and point this out.
22 I will point out that Mr. Hilton didn't do any of this analysis, didn't
23 provide any of it in his talk. He said it's all in there.



PETITIONER VERIZON
EX. 1015

1 But if we look at Demonstrative Exhibit 6 and specifically looking
2 at Claim 1 -- and I apologize, Judge Kohut, I've blown up some of the claim
3 language here. What the claim requires is that the modulation controller
4 causes the RF modem to transmit first download -- downlink data to a first
5 wireless access device and a first data block having a first optimum
6 modulation configuration and to transmit second downlink data to said first
7 wireless access device in a second data block. So it's talking about data
8 blocks within a TDD frame, and that's not disclosed and that's not discussed
9 in the Ahy '384 patent.
10 When you go to the Ahy '384, when you go I should say to
11 Petitioner's support for the presence of those claim elements, they talk about
12 the downstream payload elements that's referred to at the top of column 15,
13 and this is at page 24 of the '810 patent and it has similar corresponding
14 language in the '916 patent. It talks about the downstream payload elements
15 within a TDD frame and that's all new matter. That's a matter that was
16 added to the Ahy '133 patent and referring to the Ahy '133 patent, which is
17 Exhibit 1004.
18 JUDGE HAAPALA: Counsel, I know I asked the question, but
19 did you put any of this in the Sur-Reply?
20 MR. McCAULLEY: There's a reference to it in the Sur-Reply.
21 We had limited page numbers, but we do refer to this specific argument in a
22 parenthetical when we point out that they haven't given us anything to shoot
23 at. They haven't given us anything. They left it upon us to figure out what



PETITIONER VERIZON
EX. 1015

1 they meant. They left it upon us to figure out where to find the support,
2 what was missing, what they relied on. They just provided a chart with no
3 analysis.
4 JUDGE HAAPALA: I understand that. Could you point me to
5 that parenthetical on your rebuttal time?
6 MR. McCAULLEY: I may do it on rebuttal, Your Honor.
7 JUDGE HAAPALA: Thank you.
8 MR. McCAULLEY: I'm going to turn over now to Mr. Dowell
9 1889 and the two claims of '916, unless there are further questions.
10 MR. DOWELL: I'm basically coming in to pinch hit on beam
11 forming issues, so that would be the '931 patent and the two dependent
12 claims in the '916 patent.
13 First, I'd like to direct the Board's attention --
14 JUDGE KOHUT: Counsel, just for the record, you're using a
15 different set of demonstratives; is that correct?
16 MR. DOWELL: That's correct. It's the one with the flow -- sort of
17 a block flow chart on the first substantive page and then just a quote from
18 the practice manual.
19 JUDGE KOHUT: Okay. Perfect. Thank you.
20 MR. DOWELL: And referring to that first chart, this would be
21 page 2 of the demonstrative exhibits for the 1889 IPR, I hope.
22 JUDGE HAAPALA: I do have just a procedural matter first to ask
23 you about. I think that Patent Owner submitted the Humphrey declaration as



PETITIONER VERIZON
EX. 1015

1 both a paper and then an exhibit. Could you confirm that the paper is
2 duplicative of the exhibit?
3 MR. DOWELL: It's duplicative, I apologize.
4 JUDGE HAAPALA: Do you have any issues if we expunge the
5 paper?
6 MR. DOWELL: That would be fine. Exhibit 2001 is the same
7 thing.
8 JUDGE HAAPALA: Okay. So we will expunge Paper 26 which
9 is -- we'll confirm the number, but I think it's the same thing.
10 MR. DOWELL: Okay. In that demonstrative I prepared a chart of
11 the claims of the '931. In the initial Institution Decision the Board decided
12 that it would not institute on Claims 2, 11 and 20 and I wanted to just --
13 JUDGE HAAPALA: Yeah, I understand the dependency.
14 MR. DOWELL: You see where I'm going with that.
15 JUDGE HAAPALA: Yes.
16 MR. DOWELL: Okay. I'll let that go. And so all I'm going to
17 address is 2, 11 and 20 and that's basically the same sort of claim element,
18 and then later I'll get to 28 and 29.
19 The first -- and I'll also point out I'm not disputing that Petitioner
20 has provided good evidence the independent claims are not valid. We
21 concede that. And what's claimed in the independent claims is the
22 combination of a TDD transmission, time division duplex, a broadcast beam
23 and a directed beam, with that broadcast beam being the announcement



PETITIONER VERIZON
EX. 1015

1 beam. And, Judge Haapala, I hope I'm pronouncing that correctly, you
2 asked if a broadcast beam was shown in Vornefeld. We concede that it is.
3 And our inventor, Mr. Struhsaker, thought that was what they had.
4 They thought they had come up with the combination of TDD, which wasn't
5 new, with this broadcast announcement beam with directed beams and that's
6 what they put in their independent claims. Now, whoever Vornefeld was
7 that was writing articles for the IEEE out in the wilderness somewhere, they
8 didn't know that he had written that article, but it's out there. It's a printed
9 publication. It knocks out our independent claims. We concede that.
10 In the dependent claims, all other ones other than 28 and 29
11 include that limitation of the first beam map containing scanning beam
12 information usable by said wireless access device to detect/receive directed
13 scanning beam signals, and I think what happens in all of Petitioner's
14 arguments is that they conflate a scanning beam with a beam map. A beam
15 map must mean something.
16 JUDGE HAAPALA: I'm going to interrupt you. Did you offer a
17 specific construction for beam map?
18 MR. DOWELL: We did not offer to have a specific construction.
19 I'm happy to do one. I think it perfectly well could be. I think from the
20 context that, you know, it's pretty clear what it means, but I would suggest
21 that a beam map means a signal that defines what scanning beam covers
22 what sector at a certain time as well as the downlink/uplink times for the
23 frame.



PETITIONER VERIZON
EX. 1015

1 JUDGE HAAPALA: That isn't in any of your briefing at this time.
2 MR. DOWELL: It is not.
3 JUDGE HAAPALA: We may consider allowing the parties to
4 brief this issue, but you can continue.
5 MR. DOWELL: I think that would be a perfect resolution of this
6 and perfectly acceptable to the Patent Owner. It's certainly a term that could
7 deserve interpretation.
8 I'd like to start off with just a quick review of the technology and
9 ask everyone to just take a step back and remember the early 2000s. What
10 we really wanted at that time was to have a phone conversation that didn't
11 drop off. What Paul Struhsaker did -- and this company that they started and
12 built actual products did was foresee that there would be a time when we
13 would need to transmit large amounts of data. Mr. Struhsaker saw that --
14 wirelessly I mean. I mean, we had wired Internet into our homes, but not
15 wireless Internet typically.
16 What they foresaw and adopted was a technology to wirelessly
17 receive data, and the insight that Mr. Struhsaker had was in order to get
18 video or a large packet of data, you only needed to send a little bit, so you
19 could use TDD as opposed to frequency, as opposed to FDD. And the
20 additional insight was you could direct beams based on the particular needs
21 in a section.



PETITIONER VERIZON
EX. 1015

1 Now, I'd like to refer to the Humphrey declaration, mainly because
2 it pulls out some of the main charts from the patent that really described the
3 technology. So I'm referring to Exhibit 2001 in the '931 patent.
4 And referring to page 11 of the declaration, at the top of the page it
5 illustrates this concept of directing beams, let's say zero is due north
6 directing multiple beams in different sectors, you know, one negative 10
7 degrees east of north, etcetera. We all understand the basic technology. But
8 I think what's at issue in Claims 2, 11 and 20 and all the ones that depend
9 from them is how those beams are directed.
10 If we go down a couple more pages -- well, on the next page Mr.
11 Humphrey talks about Figure 13B from the '931 patent, which shows the
12 broadcast beam, this going out to all the sectors being covered with some
13 type of announcement, the question being what is it announcing.
14 On the next page at the top of the page, Figure 14 from the '931
15 patent, illustrates this broadcast beam being sent at the beginning of a frame,
16 and that's shown by -- and I'll point out with the highlight this early part
17 underneath the words beam map 1 that is the broadcast beam going to all
18 sectors. And then the next part of it scan beam A is a directed scanning
19 beam going to negative 30 degrees from let's say that's due north. That
20 shows that scan beam with uplink and downlink information in a TDD
21 frame.



PETITIONER VERIZON
EX. 1015

1 Now, the question is how do we know that that directed beam is
2 going to be a negative 30 degrees or positive 10 degrees and you see scan
3 beam B as a negative 10 degrees on the -- also on Figure 14.
4 Well, the critical insight and as is shown here and discussed in the
5 patent, specifically at column 29, lines 51 through 61, is this concept of a
6 beam map that would also determine where that beam would be directed to
7 and where it would be heard, and what that allows a device to know is not
8 only when the uplink and downlink is coming so it knows when to send and
9 receive, but where this is going to happen.
10 If it gets a signal and that beam is going to be in a different area
11 where the receiving device is, it would not need to transmit or wouldn't
12 transmit or receive at that location because it did not receive the beam map
13 information to let it know a signal is coming.
14 Now, in the original Petition the Board determined that Vornefeld
15 did not disclose that beam map. Obviously we agree with that. In response
16 we took Mr. Proctor's deposition, their expert, and I understand it's -- you
17 know, maybe it's tactically a thing not to ask the expert. Well, the Board has
18 found there's no beam map in your disclosure that you're relying on, so
19 where is it, what are you going to say?
20 You know, in federal court you do that. You want to know what
21 the witness is going to say. Maybe tactically you want to keep your head
22 down and hope that it never comes up again and we didn't do that. We
23 wanted to know so that we could have our expert expressly address it and he



PETITIONER VERIZON
EX. 1015

1 did, and Mr. Humphrey provided testimony that Vornefeld did not disclose
2 the beam map. And the reason it didn't disclose a beam map is because
3 Vornefeld disclosed an algorithm for determining where beams would be
4 directed. It didn't need to send maps.
5 And he also testified about or provided in his declaration, Exhibit
6 2001 at paragraphs 46 and 47, that sending a beam map and, therefore,
7 having the ability to change dynamically where you're going to direct the
8 specific scanning beams is a completely different methodology than, for
9 example, as disclosed in the patent round-robin direction which is, you
10 know, sending a beam in each one of the phases equally over time, just ding,
11 ding, ding, ding along the line or at some algorithm that determines, you
12 know, based on geography or something that one portion would perhaps
13 receive a beam more often than -- that is has obstructions or interference that
14 an area that's clear. It might get five times as much, some algorithm we
15 don't know what.
16 Well, what Vornefeld does not -- absolutely does not disclose is a
17 beam map that would tell a device when to receive, and I'm going to refer to
18 Vornefeld. Vornefeld is Petitioner Exhibit 1004 and I've just pulled up page
19 3 of Exhibit 1004.
20 As Petitioner has pointed out, the BCH and the FCH signals go
21 across the spatial domain. That's the equivalent of that bubble type graph
22 that I put up earlier. The entire signal is going across the whole space. Each
23 of these other ones are going in different spatial directions, each of these in



PETITIONER VERIZON
EX. 1015

1 between the two -- the BCH for each frame. We concede that. This is why
2 the independent claims are anticipated by Vornefeld.
3 But what's not shown is a beam map that would say when any of
4 these horizontal bars or horizontal blocks would be receiving. From all we
5 can tell on this graph, they're all receiving it at the same time or perhaps they
6 rotate. What Vornefeld discloses in its text is there's an algorithm that
7 determines that. There is absolutely nothing in there about a beam map that
8 would tell which one of those horizontal blocks would be receiving at any
9 given time, nothing whatsoever.
10 Almost conceding there's nothing in there. Petitioner relies in its
11 Reply only on the deposition testimony of Mr. Struhsaker or, I'm sorry, Mr.
12 Proctor. So taking his deposition, we didn't put our head in the sand and try
13 not to ask anything that would, you know, possibly, you know, present bad
14 evidence for us. We shined the light on this thing to see, you know, what he
15 could probably say.
16 Looking at page 30 of Mr. Struhsaker's deposition -- I'm sorry, Mr.
17 Proctor's deposition, of course, he wasn't specifically asked. He knows the
18 game probably better than anybody. And when asked anything even
19 remotely related, he was prepared to offer monologue to fill this major gap
20 in the initial Petition.
21 So I'm going to zoom in here. He -- okay. So Mr. Struhsaker or,
22 I'm sorry, Mr. Proctor is talking about the FCH and BCH channels shown
23 from Vornefeld and he says about this broadcast beam signal, he says, and



PETITIONER VERIZON
EX. 1015

1 it's got to contain a beam map which has to contain scanning beam
2 information to the extent that it's usable by a wireless access device to detect
3 the directed scanning beam signals.
4 So if a particular LCH is destined for a particular mobile terminal,
5 the FCH which is broadcasted to all users will have a map in it that describes
6 which time slots, particularly mobile -- I'm going to back out and go down.
7 Wrong one.
8 JUDGE KOHUT: Counsel, back up a second. On that page 30 it
9 says, the FCH which is broadcast to all the users will have a map. So is he
10 saying the FCH inherently has a map?
11 MR. DOWELL: That's exactly what he's saying. That is the only
12 evidence Petitioner has put in of where that beam map could be is that it's
13 inherently found in that FCH signal. And what he bases that on -- I'm sorry.
14 Okay. I'm going to get down just a little lower. Okay. Here's where he says
15 the FCH is broadcast to all the users will have a map, etcetera, and then dash
16 dash he says, one of ordinary skill in the art would understand how on a
17 transmit beam former the base station is in control of the beam former and to
18 a mobile terminal it's just receiving signal.
19 So the argument is one of skill in the art would know this. It's not
20 in Vornefeld and I submit to the Board -- I mean, you have very heavy
21 security here, but although I was not allowed to bring my driver's license in,
22 we didn't have to check our common sense when we came in. They would
23 not be citing this testimony if they had provided evidence of a beam map.



PETITIONER VERIZON
EX. 1015

1 They're relying wholly on this, one of ordinary skill in the art and what Mr.
2 Proctor said in his deposition. That is exactly what cannot be done in these
3 proceedings as made clear in August in the new Trial Practice Guide.
4 And now I'm referring to page 3 of the '931.
5 JUDGE HAAPALA: But, counsel, the Trial Practice Guide does
6 say expert testimony can inform us of how one of ordinary skill in the art
7 would understand the reference. I'm not understanding what the
8 prohibition --
9 MR. DOWELL: The argument is there's clearly a hole in that
10 reference. The Board has even found there was a hole. We say there's a
11 hole. The Petitioner recognizes there's a hole by trying to put this deposition
12 testimony in for Mr. Proctor. So there is this hole and what expert testimony
13 cannot do -- it can inform you about how to understand and, you know, how
14 to look at Vornefeld and everything else, but what it cannot do, and I'm
15 going to quote, it cannot take the place of a disclosure in a prior art reference
16 when that disclosure is required as part of the unpatentability analysis, and I
17 submit that a beam map is required in the claims, expressly in the claims and
18 they're trying to fill that hole with expert testimony.
19 Further, I believe we'd be violating the American Invents Act to
20 even consider this testimony. As the Board recognizes, an inter partes
21 review may only be requested on the basis of prior art consisting of patents
22 and printed publications. They're going outside the statute, 35 U.S.C.



PETITIONER VERIZON
EX. 1015

1 Section 311(b), looking for expert testimony to say let's just take my word
2 for it. This is -- this would have been shown.
3 And I'll submit who's Vornefeld? You know, it's some guy writing
4 in, you know, the IEEE. I mean, you said about any prior art, but, you
5 know, he could have had any theory. He might not have had any idea how
6 he was going to rotate his beams. He was -- that article is directed to
7 something else. It says zero about beam maps.
8 Your Honors asked about the BCH and the FCH. This is what
9 Petitioner is relying on as showing the beam map. So let's zoom in on page
10 3 of Vornefeld. BCH conveys signaling information concerning the whole
11 radio cell in the downlink direction. It announces the location of the FCH
12 and RCH within the actual MAC frame. That means it announces the uplink
13 and downlink times. Nothing whatsoever in there about beams or where
14 they're going.
15 The FCH is used to transmit the information about the structure of
16 the MAC frame for the up and downlink phases. This channel is broadcast
17 in the downlink direction. Again, nothing about where these beams are
18 going, and these are the elements that Petitioner pointed to as our beam map,
19 but they say absolutely nothing about a beam map.
20 And, in addition, the claim elements, in addition to using that
21 word --



PETITIONER VERIZON
EX. 1015

1 JUDGE DESHPANDE: Counsel, we're having some technical
2 difficulties. If you don't mind just pausing for just a moment, we'll see if we
3 can get this corrected.
4 JUDGE HAAPALA: This won't eat into your time.
5 (A brief pause in the proceedings.)
6 JUDGE DESHPANDE: Counsel, we're going to take a
7 five-minute break. That way everyone can use the restroom, if need be, and
8 return at 12:36.
9 JUDGE HAAPALA: And you'll have 35 minutes total time when
10 we get back, so if you want to reserve any time for sur-rebuttal.
11 MR. DOWELL: Okay. Thank you, Your Honor.
12 (A brief recess was taken.)
13 JUDGE DESHPANDE: Sorry about the interruption. We just had
14 some technical difficulties. We seem to be back online. You had about 30
15 minutes, 35 minutes?
16 JUDGE HAAPALA: 35.
17 JUDGE DESHPANDE: 35 minutes left in your total response
18 time, so you may proceed when you're ready.
19 MR. DOWELL: Okay. I should be able to wrap up in five
20 minutes and then we'll reserve the 30.
21 So, finally, on the '931, yes, I believe that the Petitioner's only
22 argument is that the beam map is inherent and they tacitly admit that by
23 citing and relying only on the Proctor deposition testimony in their Reply.



PETITIONER VERIZON
EX. 1015

1 And as I pointed out, that is improper under the case law to fill in a gap in
2 these type of proceedings with an inherency argument and, secondly, it's
3 absolutely not inherent on the facts, and we presented unrebutted testimony
4 from our expert, Mr. Humphrey, and this is in -- on page 21, page 21 of his
5 declaration.
6 After reviewing the deposition testimony of Mr. Proctor, Mr.
7 Humphrey provided the opinion that one of ordinary skill in the art would
8 not and could not assume that the start of frame information would
9 necessarily or inherently include a beam map. This is so because beam
10 forming, let alone beam mapping, is not an inherent feature of TDD signal
11 transmission.
12 And then in paragraph 47 he explains why. Basically he's saying
13 that TDD frame signals can be broadcast with beam cycled in round-robin
14 rotation. As disclosed in the '931, we discuss that in our briefing or using
15 various multiple antenna diversity techniques. In such systems a beam map
16 is detectable by individual wireless devices are not needed. This is not
17 rebutted. Now -- and I would submit that when considering expert
18 testimony, yes, if an expert provides the background, provides why it is so
19 that it would not be inherently there, that is what can be relied on. That --
20 like I say, we don't check our common sense. That makes sense. Having an
21 expert just say, oh, yeah, an FCH, everybody knows that has a beam map,
22 worthless and an error to consider that in these type of proceedings.



PETITIONER VERIZON
EX. 1015

1 Finally, Mr. -- well, not quite finally, but two last points. I
2 mentioned early that Petitioner conflates the concept of a scanning beam
3 which is moving a beam around to different spots and this beam map, the
4 Petitioner conflates those two concepts and that's very clearly shown in their
5 demonstrative --
6 JUDGE KOHUT: Counsel, a quick question.
7 MR. DOWELL: Certainly.
8 JUDGE KOHUT: You had mentioned that Vornefeld discloses an
9 algorithm to where beams need to be directed, kind of indicating that there's
10 no need for a beam map in Vornefeld, correct?
11 MR. DOWELL: Correct.
12 JUDGE KOHUT: Do any of the experts talk about Vornefeld
13 disclosing an algorithm?
14 MR. DOWELL: Humphrey does. I don't believe Proctor does,
15 and I can point you to that.
16 JUDGE HAAPALA: I think it's Exhibit 2001, paragraph 46 to
17 paragraph 47.
18 MR. DOWELL: That is the inherency argument I was just
19 discussing. There's also, in addition to that --
20 JUDGE HAAPALA: The round robin is in paragraph 47.
21 MR. DOWELL: That's correct. There's one more that's even
22 better and I'm going to find it, I'm sorry.



PETITIONER VERIZON
EX. 1015

JUDGE HAAPALA: You can do it on your sur-rebuttal time if you want.

MR. DOWELL: I've got it right here. Paragraph 43 -- sorry, I just knew it was close. Paragraph 43 where it starts, Mr. Humphrey says that Vornefeld -- in Vornefeld beam forming is accomplished with the use of algorithms and he quotes from Vornefeld a beam forming algorithm computes a weight matrix for each time slot that adjust the phases at the antenna elements to steer the main beam point direction toward the estimated DOA of the desired MT. Vornefeld says nothing about using beam maps in a broadcast beam signal that contains scanning beam information usable by wireless devices.

JUDGE KOHUT: Okay. Thank you.

MR. DOWELL: Certainly. I just have one -- oh, here it is. I wanted to point to one last thing in Petitioner's demonstratives. Looking at their slide 33, they argue that the BCH and the FCH span the entire spatial domain. We agree that's a broadcast beam. SCH and LCH are segmented in the spatial domain. We agree with that. That's a directed scanning beam. Nothing here about a beam map.

In their own slide where they're saying Vornefeld discloses a quote, beam map containing, etcetera, etcetera, nothing about a beam map in their own slide. All they have on the next page is that FCH is broadcast to all users and includes a quote, map. They get that from Proctor. And as I pointed out earlier, Proctor says one of ordinary skill in the art would



PETITIONER VERIZON
EX. 1015

1 understand it. That's an inherency argument that is disputed and not
2 allowed, and our expert absolutely did not agree with that. In fact, I would
3 invite the Board wherever anything about our expert is quoted to read the
4 context. That's not what he said. We point that out and clear it up in our
5 Reply Brief.
6 And then -- so that's all I have on the beam map limitations of 2,
7 11 and 20, other than to make the point it may be beneficial to have a round
8 where we define that term. I mean, it's certainly definable. As I proposed
9 earlier on the record, we have one definition that I think is accurate, but I
10 don't think it's necessary. Because under any definition, it's not disclosed in
11 Vornefeld. Ahy discloses even less. All it's got is a little frame. It's got
12 nothing in antenna steering. It doesn't even have an arguable beam map or
13 anything else to show that.
14 And in the interest of time, I'll just skip ahead. Claims 28 and 29,
15 they both include this claim term of a -- somehow transmitting or transmit
16 path circuitry a second downlink data traffic to substantially only wireless
17 devices within an other of said sectors. So basically putting the scanning
18 beam in different sectors at different times.
19 The only argument, again, the Petitioner has is an inherency
20 argument. It's -- we don't believe it's valid. We don't believe that they have
21 shown this element, in particular, in Vornefeld and, you know, we could dig
22 through these papers. We all know the horizontal graph chart. It does not
23 show those beams going to different sectors. Even though they may be in



PETITIONER VERIZON
EX. 1015

1 different spatial domains, they could all be getting a beam at the same time.
2 It's just not covered. That is not what Vornefeld is disclosing.
3 Finally, on the '916 there's two dependent claims, the 8 and the 16
4 that include the limitation of using in combination with, you know,
5 everything else physical beam forming technique. And we don't try to swear
6 behind on this one because, honestly, we didn't come up with it later than the
7 references they've discovered.
8 What they -- what Petitioner tries to do here is say from Ahy the
9 quote, antenna selection equals physical beam forming technique. They
10 can't support that. It is not -- they -- in order to do that, all they have is the
11 testimony of their expert saying it's inherent and that's simply not enough as
12 I've discussed already.
13 Are there any questions on any of the -- anything I've covered so
14 far?
15 JUDGE HAAPALA: I have none.
16 MR. DOWELL: Thank you very much.
17 JUDGE HAAPALA: Petitioner, before you start your rebuttal, the
18 panel thinks it would be very helpful to have briefing on the term beam map
19 for the -- in the IPR2017-01889 case. We order simultaneous briefing, claim
20 construction briefing just on the term beam map, the first three -- limited to
21 three pages. So they'll be simultaneous and the initial briefing will be due
22 Friday, December 14, and then both parties will have an opportunity to



PETITIONER VERIZON
EX. 1015

1 respond, again, limited to three pages and that briefing will be due
2 December 21.
3 We will send out an order most likely tomorrow on this, but we
4 wanted to make sure that you both have an opportunity to get started. So,
5 again, the initial briefing due December 14 limited to three pages to
6 specifically giving us your construction of the term beam map.
7 MR. HILTON: Your Honors, I'd like to address some of the issues
8 raised by Patent Owner in their time. The first, I'd like to talk about the
9 conception issue.
10 So Mr. Struhsaker admits that these documents were publicly
11 available to all members of the working group in early 2000. He said that
12 every submission, you know, which would include Klein and Sanders would
13 have been available to all of them without any obligation of confidentiality.
14 He actually remembers reviewing Klein and discussing Klein at one of the
15 working group meetings over 18 years ago.
16 JUDGE DESHPANDE: Counsel, do we have any answer as to
17 why it's not in the catalog?
18 MR. HILTON: I do not have an answer. I mean, what we
19 submitted was the testimony of a librarian that, you know, very experienced
20 librarian that's been doing this since I believe the early 1970s, and she
21 testified that she found the accessibility of those documents through that
22 catalog and stated the MARC record associated with those dates.



PETITIONER VERIZON
EX. 1015

1 The Patent Owner disputed that and then the supplemental
2 evidence that we served directly related to further showing that that early
3 spring, early 2000 availability of those references was, in fact, true and we
4 did that according to the C.F.R., which allows a party to serve supplemental
5 evidence when there's an objection.
6 Yeah, I mean, the other thing I want to point out is that Mr.
7 Struhsaker -- you know, the other evidence comes from the deposition here
8 and, you know, that's also a proper channel to -- for the Board to receive
9 additional evidence in an IPR. You know, this is their own witness, their
10 own inventor, and Mr. Struhsaker testified that these references were
11 available then.
12 The conception, the other thing I want to note is the Patent
13 Owner's -- it's their burden. It isn't our burden to establish conception by
14 asking Mr. Struhsaker about it at his deposition and I think that they, you
15 know, try to draw that link several times where they suggest we should have
16 asked their witness certain things about our own case and didn't and I think
17 that -- I think that's irrelevant.
18 So the other thing I wanted to point out is Exhibit 2471 was one of
19 the things that they raised in their presentation here, and that particular
20 exhibit I don't have a slide for that, but, again, all these exhibits that they're
21 showing does not mean that there's a modulation controller. I believe in
22 2471 they were trying to point out that this meant that modulation was being
23 changed during the transmission of the signal, but, again, those arrows and



PETITIONER VERIZON
EX. 1015

1 those modulations that they're showing there were things that could have
2 been modified during the system setup. And Mr. Proctor testified that
3 manual setup of these configurations was something that was normal at that
4 time.
5 So they also point out -- they point out the phrase modulation
6 complexity can be supported. That, again, doesn't mean that modulation is
7 being changed by a controller during transmission or that there's an
8 optimization of the modulation that's occurring. So, I mean, in summary on
9 conception they haven't shown it. I mean, we presented initially our
10 arguments about the inventorship issue and, you know, there's not really an
11 ability to correct the inventorship in this proceeding and that that means the
12 conception cannot be proved. But even outside of that, the documents that
13 they put forward to show conception don't satisfy their burden of proof.
14 So I'd like to turn to diligence real quickly. So with respect to
15 Patent Owner's diligence argument, there's still no tie to the RF modem. It's
16 just that the TAS system that they mention in these diligence documents and
17 these weekly reports, you know, they brought up the fact that they believe all
18 this is interconnected and, you know, that this was done together in a way of
19 moving this project forward, but it still -- it still doesn't obviate their burden
20 to proof that the claimed invention in these two patents was actually
21 supported by these diligence documents and, you know, nowhere in the
22 claimed invention do they mention TAS and, you know, they're not talking



PETITIONER VERIZON
EX. 1015

1 about TAS in the claimed invention, but yet that's what their diligence
2 documents show.
3 JUDGE DESHPANDE: Counsel, before you move on, you had a
4 slide up that showed a timeline. Is there something similar to that timeline
5 in the briefing anywhere?
6 MR. HILTON: Let's pull the slide up.
7 MR. COOK: I don't believe there was, Your Honor.
8 MR. HILTON: I don't believe we did do a timeline in the briefing.
9 MR. COOK: The display is not working at the moment.
10 MR. HILTON: Okay. The display is down. Okay.
11 JUDGE HAAPALA: We have the record in front of us. If you
12 could point us to pages, we have it here if that helps.
13 MR. HILTON: Okay. I don't think -- unless you have a question
14 about the timeline, I'll move on. I wanted to briefly address also their
15 statements with respect to the Ahy '133/Ahy '384 issue.
16 So we do concede that the Ahy '133 contains new matter. You
17 know, it was a CIP application of the parent. Proctor actually does show
18 where invalidating disclosure is contained in the Ahy '384. He does that in
19 his supplemental declaration. There's a chart at the back where it
20 cross-references disclosure from Ahy '133, Ahy '384. It's not always exactly
21 the same word-for-word disclosure, but it does show where there is support
22 for each one of those claim elements and the invalidating disclosure.



PETITIONER VERIZON
EX. 1015

1 But it's important to note that we don't even get to the Ahy
2 '133/'384 issue if the Board finds that they did not prove conception and
3 diligence.
4 JUDGE HAAPALA: Isn't it the reverse, though? If we find that
5 Ahy has the priority date, we don't need to get to the conception and
6 diligence?
7 MR. COOK: That's true.
8 MR. HILTON: Well, that's true. That is true, it is both, but, you
9 know, we think there's such a gap here in the proof that's been proffered for
10 conception and diligence that they just don't get there.
11 So I'd like to turn, Judge Haapala, to your questions, but in light of
12 the Board's suggestion that we brief on beam map, should I save those?
13 JUDGE HAAPALA: That's why I told you before you proceeded
14 so that --
15 MR. HILTON: Okay. So I won't address those, address those now
16 then.
17 So with respect to the '931, I do want to point out one thing that the
18 Patent Owner seems to focus a lot of energy on and that is -- and then we
19 can address this, again, I suppose in the beam map conversation, our
20 pleadings, but, you know, the Patent Owner actually says that Proctor is
21 injecting this inherency argument. You know, Proctor is reviewing the
22 reference and he's informing the Board as to how a person of ordinary skill
23 in the art would read that reference in association with the required claims,



PETITIONER VERIZON
EX. 1015

1 in this case a beam map. I don't believe there to be anything improper about
2 that as the Patent Owner suggests.
3 And then, finally, I would like to turn to -- since I have a little bit
4 of time, I'd like to turn to Claims 28 and 29 and discuss those quickly. This
5 is of the '931 patent in the 1889 IPR.
6 So slide 37. So in the Institution Decision the Board actually sided
7 with Petitioner on these two claims, and the claims require this limitation
8 second downlink data traffic to substantially only wireless access devices
9 within an other of said sectors using an other of said directed scanning beam
10 signals.
11 Before looking at Figure 2, I want to jump back to slide 32 and,
12 you know, again Vornefeld in Figure 3 here, you know, the second downlink
13 data traffic is represented by the separate beams. I mean, the separate beams
14 here are shown in the spatial dimension or domain and are those portions of
15 the beam that's outside of the broadcast portion over at the left.
16 JUDGE HAAPALA: Counsel, the claim requires a downlink
17 portion in said TDD frame referring back to the same TDD frame in Claim
18 1, and I see different TDD frames in Figure 3. I'm not seeing where those --
19 the same frame would have the transmitting in a second downlink portion
20 with a different directed scanning beam.
21 MR. HILTON: Okay. I don't know that I'm going to be able to
22 address that. Let me jump back to Figure 2 which was on 37, slide 37. You
23 know, Vornefeld definitely discusses directed scanning beams and it



PETITIONER VERIZON
EX. 1015

1 definitely shows these beams being sent out at the same time to individual
2 subscribers. You know, the link that Mr. Proctor made and that Vornefeld
3 discusses is that there is a triangular configuration of -- or there can be a
4 triangular configuration of these uniform linear arrays. In fact, Vornefeld
5 discusses the possibility of having three ULAs that can be used to cover the
6 whole radio cell. So what --
7 JUDGE HAAPALA: And you're referring here now to the
8 limitation requiring --
9 MR. HILTON: Other sectors, that's right.
10 JUDGE HAAPALA: I understand that.
11 MR. HILTON: You understand that?
12 JUDGE HAAPALA: I think my question is about the portion of
13 the claim that requires in the same TDD frame for the second downlink
14 traffic to be transmitted with the different an other said directed scanning
15 beam signals, which I think Patent Owner did raise in their Sur-Reply.
16 Excuse me, in their Response.
17 MR. HILTON: In their Response.
18 JUDGE HAAPALA: It's on page 26.
19 MR. HILTON: I think I'm just going to have to stand on the
20 record on that and what we've submitted.
21 JUDGE HAAPALA: Okay. Thank you.
22 MR. HILTON: Okay? Thank you. Are there any other questions?
23 JUDGE DESHPANDE: No. Thank you.



PETITIONER VERIZON
EX. 1015

MR. HILTON: Okay. Thank you.

MR. McCAULLEY: I'll try to keep this brief. I wanted to -- there was a question Judge Deshpande asked me about where the argument was about the different modulation formats in the uplink. That's referred to in our Sur-Reply at the end of page 7, top of page 8 in Footnote 5. It's not something that we explicitly addressed in the Patent Owner's Response in that evidence. The claim requires optimization of modulation in the downlink, which we did refer to. Petitioner raised the argument that modulation in the uplink is also required to be shown and we did refer to that in the Sur-Reply at the portion that I indicated.

And then there was also a question, Your Honor, about where that parenthetical appeared in our Sur-Reply, and that's on page 13 about two-thirds of the way down the page. It refers to the fact that Patent Owner didn't address the issue of data blocks within a TDD frame.

Going -- there's a lot of -- there seems to be some confusion and I know we did talk about, Your Honor, ships passing in the night. I want to make it very clear, although Dr. Hall-Ellis is a respected librarian, she didn't do her homework and those documents, when you follow the path, don't lead to Exhibits 1005 and 1006. And we do have some testimony from the inventor and I would direct the Board to read the exchange at pages 80 through approximately 84 of the Struhsaker deposition, which I think is Exhibit 1013. Mr. Dowell will shout it to me if that's incorrect.



PETITIONER VERIZON
EX. 1015

1 And what he says, as I recall seeing these things, I'm not sure of
2 the date. I'm not sure when I saw them. I stand on directing you to that
3 testimony and using that in forming your basis about what he actually said
4 and what it establishes with respect to the public accessibility of these
5 documents and compare that to the legal standard that's required to make
6 that demonstration.
7 I refer you also to my demonstrative --
8 JUDGE DESHPANDE: Can you explain why that would fail the
9 legal standard if he was at a conference, a widely attended conference, and
10 he received a copy of it?
11 MR. McCAULLEY: I would question widely attended and who
12 received it, how many copies are received, what happened to them, were
13 they searchable? Look at Dr. Hall-Ellis' declaration about how a person skill
14 in the art could search the databases. If this may or may not have been
15 handed out at a certain conference, it doesn't meet the standard of public
16 accessibility. We don't have any record. There's no evidence in the record
17 of how many people were at this conference, who was there, how they
18 handled this information, how this information was actually handled and
19 whether it was publicly availability, whether it was posted anywhere.
20 If you follow back Exhibit 1009, and I will point out that was
21 submitted as supplemental evidence. There was no Motion to Exclude. We
22 didn't file a Motion to Exclude anything. That shouldn't be in the record.
23 That shouldn't come in. It doesn't matter that they brought it in after we



PETITIONER VERIZON
EX. 1015

1 raised an objection. We didn't move to exclude it. We didn't move to
2 exclude the evidence. We attacked the evidence that was presented and we
3 completely destroyed it, and they admit as much through their silence. You
4 don't hear them saying Dr. Hall-Ellis makes this publicly accessible because
5 her declaration doesn't.
6 JUDGE DESHPANDE: Well, what about the other declaration,
7 the Boyce declaration?
8 MR. McCAULLEY: The Boyce declaration, if we take a look at
9 it, and I'm sorry I don't have it right up here, but I think we deal with that
10 and we talk about it in our Motion to Strike, but there's several elements to
11 that that the unfairness of bringing that in now. Boyce says we don't take a
12 position whether it was accessible. This is the earliest record we can find.
13 I will tell you if we're talking about things that aren't in the record,
14 if you go back and do a Wayback search on Exhibits 1005 and 1006, the first
15 time you see it is 2003 and 2005 and so, you know, we didn't have to
16 respond to that because it's not in the record.
17 But think about it, if we think about the unfairness of what the
18 proposal is if we even considered Exhibit 1031 as evidence in this matter.
19 We could have presented a different -- if that was the evidence that was
20 presented to us, due process, we could have presented certainly much more
21 evidence. We had E-mail servers at that time. We could have presented
22 perhaps -- we're in the land of make believe. But if that was the evidence
23 that was presented in the Petition, then we might have had two separate



PETITIONER VERIZON
EX. 1015

1 presentations on conception because the company just gets rolling in July
2 and now they have E-mail servers, they have all these employees.
3 And I stand on our diligence record. Our diligence record when
4 you look at it with the testimony of Mr. Eckert and Mr. Struhsaker, nobody
5 abandoned this invention. That's the legal standard. That's the touchstone.
6 That's what we're looking for. There was no abandonment of the invention
7 here. There were 17 patent applications that were filed. It was a
8 complicated system, but it was clear. And I apologize, again, to the servers
9 of the Patent Office with all the information that we put in. It was clear that
10 they were diligently working on it.
11 But take that evidence and what we could have presented if we
12 were presented the declaration, the Boyce declaration, Exhibit 1031 with the
13 Petition, well, certainly we would have presented a different case, but we
14 were never given that opportunity. Due process requires it.
15 JUDGE HAAPALA: Counsel, you were given an opportunity to
16 respond in your Sur-Reply, though, to that evidence, correct? If, for
17 example, we find that Petitioner was properly responsive to your argument
18 that Klein wasn't public accessible, you were then given an opportunity to
19 respond in a sur-reply to that, correct?
20 MR. McCAULLEY: We were given an opportunity, but it would
21 have been impossible to put a sur-reply case -- to put a conception case in in
22 a sur-reply and we were not allowed to present any new evidence, so it
23 would --



PETITIONER VERIZON
EX. 1015

1 JUDGE HAAPALA: I think the issue is whether Klein was
2 publicly accessible and, you know, Petitioner does state in its Petition that
3 Klein was submitted in response to a call for contributions to IEEE 802.16,
4 so there was some assertion that Klein was submitted in a response to a call
5 for contribution, and I understand your arguments about the deficiency of
6 evidence and we haven't made a determination on the Motion to Strike. I'm
7 just wanting to pursue different paths with this.
8 MR. McCAULLEY: If the Petition had put forward evidence that
9 we now have in front of us, then we certainly would have attacked it. We
10 would have had an opportunity to respond to the Patent Owner's Response.
11 I want to speak briefly about the lack of a modulation controller in
12 the conception documents and refer you to Demonstrative Exhibit 15, and
13 it's the demonstrative exhibit where we lay out Exhibit 2471 over the top of
14 page 20 from Exhibit 2457. And, again, this was an E-mail that was created
15 by Mr. Struhsaker to get the RF modem supplier, Doug Shultz, started on
16 building the modem.
17 I didn't hear any comment from Petitioner about the fact that we're
18 talking about non-line of sight highly distorted lengths in that callout. You
19 don't worry about those things if you've programmed the device to say how
20 far away is -- how far away is this subscriber from the base station. Why
21 does non-line of sight matter, then? Why does a distorted link -- links distort
22 over time. There's no need for any mention of the RF modem being able to
23 adjust to differing conditions over time if this is something that's set by



PETITIONER VERIZON
EX. 1015

1 someone on a pole that said this is how far away it is, this is how we're going
2 to treat it. Mr. Struhsaker contemplated more and that's obvious from the
3 totality of the evidence.
4 The second sentence that we call out in that exhibit says
5 modulation index amongst other things can be programmed on a
6 burst-by-burst basis. And I apologize, I don't have the cite to the transcript,
7 but Mr. Proctor testified burst by burst. Yeah, that's data block by data
8 block.
9 If you have a system where there's nothing changing over time,
10 how can you be programmable on a burst-by-burst basis with respect to
11 modulation index? There is no doubt that Mr. Struhsaker had fully
12 conceived of the claimed invention. And as I pointed out earlier with
13 respect to uplink and downlink, the claim only requires optimization in the
14 downlink of modulation.
15 And then I'd just like to point briefly, there's no dispute that there's
16 no analysis provided with respect to '384, but I'd like to go into a little more
17 detail and invite the Board to review pages 23, 24 and 25 when we talk
18 about this very claim element that we're talking about, differing modulation
19 from individual data blocks within a TDD frame. That was introduced in
20 Figure 11, column 15 of Ahy '133, the CIP. That's all new.
21 Petitioner relies on it. The Board relies on it. In the Institution
22 Decision, that's what where you find it. You find any discussion of
23 individual data blocks with respect to CPEs as the term is used in the Ahy



PETITIONER VERIZON
EX. 1015

1 patent. You find it in a new matter that was added in column 15 and Figure
2 11. That's what Petitioner relies on and that's why you see a lot of hand
3 waving now and no analysis.
4 Mr. Proctor admitted during his deposition, I did not provide any
5 analysis of new matter and my chart does not provide the analysis. His
6 declaration doesn't provide any analysis. We are forced to guess. We are
7 forced to try to make a guess as to what they're contending covers those
8 claim elements. We were not allowed to put any supplemental declaration
9 in, despite the fact that we had to analyze and guess at what Petitioner's
10 position is.
11 But I would point out as by way of example, it shouldn't be my
12 burden, but the discussion of data blocks which they call payload elements,
13 the discussion of anything to do with the individual components for TDD
14 frame was introduced to Ahy '133 between the time that the '384 was filed
15 and the '133 was filed. Petitioner chose to rely on it in the Petition. That's
16 not my problem.
17 JUDGE DESHPANDE: Have you raised any clear example of a
18 limitation that would not be described by the Ahy '384?
19 MR. McCAULLEY: I think if I refer to, I think a similar
20 limitation for both claims, wherein said modulation controller causes said
21 first RF modem to transmit downlink data to a first wireless access device
22 and a first data block within a TDD frame using a first modulation



PETITIONER VERIZON
EX. 1015

1 configuration and to transmit downlink data to a second wireless access
2 device and a second data block within the TDD frame.
3 There's discussion of -- there's no discussion of multiple
4 subscribers within a TDD frame. There's no discussion -- there's an
5 algorithm that talks about varying things frame to frame. The claim requires
6 that we get down and we look at what's happening at the data block level.
7 And those payload elements and that discussion from Ahy '133 the
8 Petitioner relies on and that the Board relied on was added to the '384 patent,
9 and there's obviously in all the independent claims parallel language that
10 talks about TDD frames that have data block components.
11 JUDGE DESHPANDE: I guess maybe to be more clear on my
12 question is, is it your position that Ahy '384 doesn't disclose that last half of
13 the limitation B of Claim 1 or that with the points that they're pointing to
14 don't have it? I guess I'm not --
15 MR. McCAULLEY: I'd say doesn't disclose it.
16 JUDGE DESHPANDE: Yeah.
17 MR. McCAULLEY: It's not my burden to prove it. But if you're
18 asking me to take on the burden, that's what I would point to without having
19 an opportunity to put in supplemental evidence on this, which we did
20 request. I would point to at least that portion as missing from Ahy '384.
21 And, again, I don't think you get there because I think under
22 *Drinkware* they had to analyze all of the claims to even get to the analysis.
23 They analyzed one claim, not 52. There's 51 missing claims from their



PETITIONER VERIZON
EX. 1015

1 analysis, and they provided no analysis. They provided a chart side by side.
2 That's forcing me to try to do their job and guess at what they're talking
3 about and that's not fair.
4 Are there any other questions? At least Mr. Dowell will talk to
5 beam forming. Are there any other questions?
6 (No response.)
7 MR. McCAULLEY: Thank you.
8 MR. DOWELL: I just had two final things. I mean, while we
9 were arguing, I've kind of been the one with looking up the actual evidence
10 on the computer and somehow it's happened in the course of today that it's
11 become gospel that Mr. Struhsaker testified that he saw the Klein and
12 Sanders references at this IEEE. I'm sorry to overlap with Mr. McCaulley's
13 argument, but while he was arguing I pulled up the actual transcript.
14 And as I advise the Board and I put in the Sur-Reply on the '931,
15 every time Petitioner cites something at a deposition, you've got to check it
16 because it's often the polar opposite of what they say, and I say that in a
17 professional manner as possible. If you look at the Struhsaker deposition
18 transcript starting on page 81, line 13, Mr. Struhsaker is being asked about
19 Exhibits 1006 and 1005. 1005, as he's asked, is what we've been calling in
20 the IPR as the Klein reference. Okay. Klein, blah, blah, blah. If we go to
21 the next page. Exhibit 1006 is another submission from Ray Sanders at
22 Circuit Path Network Systems. That's the Sanders exhibit.



PETITIONER VERIZON
EX. 1015

1 On that page 82, line 16, the question, take a minute to review this
2 document and let me know if you've seen this before. Mr. Struhsaker
3 testifies, I don't recall seeing this document, but given that it is an IEEE
4 document, it's part of the record. Now, what it's part of the record means,
5 God knows, but he does not testify that he saw that document that is dated at
6 that time. We can argue about even if he had, even if he was -- you know,
7 had it plastered all over and everyone was handed out that that's a public
8 availability, he's testified the fact is that he didn't see the document.
9 JUDGE DESHPANDE: Is he talking about Sanders there or
10 Klein?
11 MR. DOWELL: That is Klein. That is --
12 MR. COOK: It's not Klein.
13 MR. DOWELL: It is absolutely Klein.
14 JUDGE DESHPANDE: Go down.
15 MR. DOWELL: He's handed 1005 back. I went up. And this will
16 clear it up, 1005 is what we've been calling the IPR as the Klein reference.
17 Okay. Exhibit 1006, so maybe this is 1006. Take a minute to review this
18 document. If this question were more clear, we would know and that's not
19 on me. I don't recall seeing this document, but given that it's an IEEE
20 document it's part of the record. I say whatever it is, it's not what's coming
21 up next.
22 Let's go down a little more. Now we're on page 83. WiMAX,
23 etcetera. Page 80, here we go. Here, let's see -- okay. Page 82. Sorry for



PETITIONER VERIZON
EX. 1015

1 this, but line 19. Here he was asked, take a minute to review this document.
2 Let me know if you've seen this before. I don't recall seeing this document,
3 but given that it's an IEEE document, it's part of the record.
4 Then on the next page he's given another document. Take a
5 minute to review this -- so assuming this was submitted in the working
6 group, you would have seen a copy of this on or around the date submitted,
7 which is indicated as December 24, 1999. Objection. He says, yeah,
8 honestly, I had not. I don't recall seeing this document. It does not mean it's
9 not part of the IEEE record. It just doesn't mean -- I just don't recall seeing
10 this one at all. Then he's asked about Ray Sanders.
11 JUDGE HAAPALA: I think, counsel, that we do understand your
12 point and we do look at the deposition transcript of record cited.
13 MR. DOWELL: Fair enough. But I think that makes the point and
14 we're trying do it, you know, on the fly that he -- it was not -- it should not
15 be accepted as gospel that Mr. Sanders saw those documents.
16 Finally, the argument was made that with respect to the '931 that
17 there's nothing improper about submitting expert testimony as to how to read
18 a reference, and I would refer the Board to the new Practice Trial Guide that
19 says quote, in other words, expert testimony may explain patents and printed
20 publications, but it is not a substitute for disclosure in a prior art reference
21 itself. Thank you.
22 JUDGE DESHPANDE: Thank you. These cases are submitted.
23 This was helpful. Thank you so much.



PETITIONER VERIZON
EX. 1015

1 JUDGE HAAPALA: We also appreciate your accommodation in
2 the scheduling.
3 JUDGE DESHPANDE: Yeah, I forgot to mention that.
(Concluded at 1:26 p.m.)



PETITIONER VERIZON
EX. 1015

IPR2017-01885 (Patent 7,173,916 B2)
IPR2017-01887 (Patent 6,891,810 B2)
IPR2017-01889 (Patent 7,230,931 B2)

PETITIONER:

Robert Hilton
George Davis
Jason Cook
Sprint Spectrum L.P.
rhilton@mcguirewoods.com
gdavis@mcguirewoods.com
jcook@mcguirewoods.com

PATENT OWNER:

Anthony Dowell
Richard McCaulley
General Access Solutions, Ltd.
aedowell@dowellip.com
rmccaulley@mccaulleydowell.com



PETITIONER VERIZON
EX. 1015