

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

VOLKSWAGEN GROUP OF AMERICA INC.,
Petitioner,
v.
CARUCEL INVESTMENTS L.P.,
Patent Owner.

IPR2019-01101 (Patent 7,221,904 B1)
IPR2019-01102 (Patent 7,848,701 B2)
IPR2019-01103 (Patent 7,979,023 B2)
IPR2019-01105 (Patent 8,718,543 B2)

UNIFIED PATENTS, LLC.,
Petitioner,
v.
CARUCEL INVESTMENTS, L.P.,
Patent Owner.

IPR2019-01079 (Patent 7,979,023 B2)

Record of Oral Hearing
Held: September 2, 2020

Before THOMAS L. GIANNETTI, DANIEL J. GALLIGAN, and
PAUL J. KORNICZKY, *Administrative Patent Judges*.

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The above-entitled matter came on for hearing on Wednesday,
September 2, 2020, commencing at 12:00 p.m., EDT, by video/by telephone,
before Walter Murphy, Notary Public.

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P R O C E E D I N G S

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JUDGE GIANNETTI: So welcome everyone to this PTAB remote hearing. This is a consolidated hearing,. The first case is Volkswagen Group of America v. Carucel Investments, L.P., involving IPR 2019-0101, that's patent 7,221,904. IPR 2019-01102 involving patent 7,848,701, IPR 2019-01103 involving patent 7,979,023 and finally IPR 2019-01105 that is patent 8,718,543 and those are the IPRs involving Volkswagen Group of America and Carucel Investments. We also have on for argument today Unified Patents, LLC v. Carucel Investments, L.P., that's IPR 2019-01079 involving patent 7,979,023. The hearing today will be a consolidated hearing in the cases that I just mentioned.

Let me introduce the panel. I'm Judge Giannetti. I will be presiding at this hearing and additionally we have Judge Galligan and Judge Korniczky. Let me start by getting appearances. First let's start with Petitioner Unified. Who is appearing today for Unified?

MS. CALLAHAN: Apologies, I was muted on both of my phones. Good afternoon, Your Honors, appearing for Unified Patents is Michele Callahan and also on the line is Roshan Mansinghani.

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1 JUDGE GIANNETTI: All right. And who is appearing
2 today for Volkswagen of America?

3 (Pause, due to technical difficulties.)

4 JUDGE GIANNETTI: Hello? I'm hearing a garbled voice
5 but I can't make out what you're saying. Who is appearing for
6 Volkswagen? Do we have counsel on?

7 MR. RICHARDSON: Yes. Sorry, Your Honor, I was just
8 having some audio issues. This is Ryan Richardson with the law
9 firm of Sterne, Kessler, Goldstein & Fox on behalf of
10 Volkswagen Group of America.

11 JUDGE GIANNETTI: Okay, Mr. Richardson. And who is
12 appearing for Patent Owner Carucel?

13 MR. RHOADES: Good day, Your Honor. Can you hear
14 me?

15 JUDGE GIANNETTI: Yes, I can.

16 MR. RHOADES: Okay. This is Scott Rhoades
17 representing Carucel Investments and we will be referring to as
18 Carucel throughout the argument. Also on the line is Mr. Elvin
19 Smith and Mr. Sanford Warren who will be speaking on behalf of
20 Patent Owner as well during the presentations.

21 JUDGE GIANNETTI: Okay. All right. So we have our
22 appearances. We have our court reporter, Mr. Murphy. Mr.
23 Murphy, you're on the line? I just want to get that confirmation.

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1 THE REPORTER: Yes, I am, Your Honor. I've been
2 rolling ever since you opened --

3 JUDGE GIANNETTI: Okay.

4 THE REPORTER: -- as 12 noon exactly.

5 JUDGE GIANNETTI: Okay. Thank you, Mr. Murphy. So
6 I think we have everybody on line and we can hear you and we
7 can see you, so I think we're ready to begin. Let me run over
8 some procedures here before we get started. This is obviously a
9 remote hearing by video and so far we've been pretty good in
10 overcoming any technical problems. I've had quite a few of
11 these and we've avoided technical glitches in most of them but
12 we are concerned that you have your opportunity to be heard so
13 if at any time during the proceeding you run into any technical
14 difficulties please let us know and you can do that, for example,
15 by contacting the team member that set up the call or just
16 generally try to get in touch with us through some other means,
17 but that would be the best way to do it. So I don't expect that we
18 will be having problems but it sometimes happens.

19 The second thing I want to remind people is to get control
20 of the mute button. Make sure that when you are speaking that
21 you are unmuted and that you stay unmuted, but when you're not
22 speaking for any period of time please mute yourself to avoid
23 any background noise we might hear. When you speak you

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1 should identify yourself so that our court reporter, Mr. Murphy,
2 knows who's speaking. If you're going to speak for a length of
3 time just do that at the beginning so that when we get our
4 transcript back we will have speakers properly identified.

5 The last thing I want to mention is that we do have all of
6 the record in this case available to us including your
7 demonstratives. All members of the panel have all the papers
8 that you've filed available to us during the hearing. If you do
9 refer to any exhibits or demonstratives, as I expect that you will
10 be, please identify them, the page number and the document that
11 you're referring to so that we have a clear record of what you're
12 talking about and so that the panel can follow along.

13 I want to say a word about demonstratives. I see both
14 parties have filed demonstratives in the case and I just want to
15 remind you that demonstratives in our proceedings are an aid to
16 arguments. They are not part of the argument or the record.
17 They are just your aids in presenting your argument. So I think
18 you should keep that in mind that the record of this proceeding
19 will be the transcript that will be produced by Mr. Murphy and
20 will be distributed to you after the hearing.

21 All right. Now we have given each side two hours to
22 present arguments. We have a LEAP practitioner. I think you're
23 all aware that the PTAB has a program for less experienced

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1 lawyers called the LEAP program and I believe Ms. Callaghan
2 has made application and it's been approved so that the
3 Petitioners, and particularly Unified, will have an extra 15
4 minutes so their allocation will be two hours and 15 minutes.
5 The Patent Owner's side will have two hours and you may divide
6 those -- that time up among counsel as you wish. It sounds like
7 there will be some division of argument and that's fine. I just
8 wanted to remind the parties that this may be a long hearing, it
9 may go as long as four hours, so we will take a break around
10 halfway point at some logical stopping point, we'll take a ten or
11 fifteen minute break. Our court reporter and our tech people
12 have asked that when we do take a break that you remain on line,
13 don't sign off so that it will be easy to get up and running after
14 the break. We want to keep the hearing moving so that we finish
15 in a reasonable amount of time. Let me -- any questions before
16 we begin from either side? I see we've just lost a video. Either
17 of the Petitioners have any questions?

18 MS. CALLAGHAN: Unified does not, Your Honor.

19 JUDGE GIANNETTI: Okay. Volkswagen?

20 MR. RICHARDSON: No questions for Volkswagen, Your
21 Honor.

22 JUDGE GIANNETTI: Carucel, any questions?

23 MR. RHODES: No, Your Honor.

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1 JUDGE GIANNETTI: Okay. All right. Let me ask the
2 Petitioners, have you -- do you have a plan for how you're going
3 to divide things up? Who's going to go first and how you're
4 going to present your case? There is a lot of overlap, I'm
5 looking at your slides and I wondered if you had a plan in mind
6 for how you're going to present your case?

7 MS. CALLAGHAN: Yes, Your Honor. This is Michelle
8 Callaghan for Unified. I will present first on the 023 patent in
9 the 1079 proceeding and then I will try to take on 30 minutes and
10 reserve about 15 minutes for rebuttal and then Mr. Richardson
11 for Volkswagen will pick up the 023 patent in Volkswagen's
12 proceedings so that there's some continuity there.

13 JUDGE GIANNETTI: All right. Okay. I think I
14 understand that. I did not mention that the Petitioner may
15 reserve time for rebuttal and the Patent Owner may reserve time
16 for surrebuttal. So it sounds like you are reserving 15 minutes
17 for your part of the case, Ms. Callaghan. Mr. Richardson, are
18 you going to reserve any time? Will there be additional rebuttal
19 from you?

20 MR. RICHARDSON: Yes, Your Honor. We're going to use
21 one hour for the direct portion and then reserve a half an hour of
22 our time for rebuttal.

23 JUDGE GIANNETTI: Okay. So all together that's 45

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1 minutes of rebuttal on the Petitioner's side. All right. On the
2 Patent Owner's side I will ask you the same question in the
3 beginning of your presentation unless you want to tell us now but
4 you may want to wait and see how things go before you decide
5 how much rebuttal time you need. Mr. Rhoades?

6 MR. RHOADES: Yes, Your Honor.

7 JUDGE GIANNETTI: You want to reserve?

8 MR. RHOADES: We'd like to (indiscernible.)

9 JUDGE GIANNETTI: Yes. Okay, that's fair. All right. I
10 think we're ready to begin unless anybody has any further
11 questions. Ms. Callaghan, I believe you're up first; is that right?

12 MS. CALLAGHAN: Yes, Your Honor.

13 JUDGE GIANNETTI: Okay. I will be keeping time here.
14 Unfortunately we don't have the lights that tell you how much
15 time you have left but I will try to give you some warning when
16 you're getting close to the end of your initial time period. If you
17 want to continue at that point you can, but it will come out of
18 your rebuttal time. All right, Ms. Callaghan, whenever you're
19 ready you may proceed.

20 MS. CALLAGHAN: Thank you, Your Honor. As
21 mentioned, I am Michelle Callaghan and I represent Unified
22 Patents, LLC and we'll start at slide 4. The 023 patent describes
23 a system in which a mobile unit, green, travels along the

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1 roadway and communicates with a fixed port or base station,
2 blue, through a moving base station, red.

3 On slides 5 and 6 we have the two independent claims,
4 claims 1 and 11. They each recite an apparatus configured to a
5 relative to the earth and it comprises spatially separated
6 antennas. Claim 1 recites the apparatus receiving signals from
7 the mobile device and transmitting them to a base station while
8 claim 11 on slide 6 is similar but recites the signals going the
9 other direction from a fixed port to the apparatus through a
10 mobile device. The content (phonetic) that was critically new
11 here was that the apparatus transmitting signals between the
12 mobile device and base station can loop.

13 Turning to slide 7, the apparatus is simply a standard radio
14 interface unit that uses well known commercially available
15 antennas and circuits and on slide 8, the radio interface uses
16 known procedures for handoff and station selection. So the gist
17 of the claimed invention is an apparatus comprising admittedly
18 known hardware and using the same techniques as the prior art
19 and saying now it's not a moving device. With that, unless Your
20 Honors have any questions I will turn to slide 12 to discuss the
21 claim construction dispute regarding mobile device. Unified
22 submits that mobile device is a term that is clear on its face. It
23 means no construction.

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1 JUDGE GIANETTI: But counsel, before you go into that I
2 just want to ask you about the preamble. Is there a dispute over
3 the construction of the preamble or are you both satisfied with
4 the District Court's construction?

5 MS. CALLAGHAN: Unified and Carucel have proposed
6 the District Court's construction but as we mentioned in the
7 reply, there isn't a material dispute regarding this construction so
8 because it's not material dispute, the Board was correct in its
9 Institution decision that it does not need to be construed for the
10 purpose of this proceeding. But again, Unified and Carucel
11 proposed the same construction and Unified would not object to
12 that.

13 JUDGE GIANNETTI: Okay, thank you.

14 MS. CALLAGHAN: Of course. So on slide 12 Unified
15 submits that mobile device is a term that is clear on its face and
16 needs no construction. Carucel, on the other hand, takes this
17 term and loads it with five additional limitations. First, Carucel
18 adds registering and second communicating directly with the
19 cellular network. The third and fourth bullets here are not
20 explicitly part of Carucel's construction but these require the
21 device to be able to communicate directly with multiple moving
22 base stations and a fixed base station, and then fifth Carucel
23 indicates that its construction is meant to exclude cordless

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1 phones on the end of the mobile device.

2 The fifth directly contradicts the specification. On slide 13
3 the 023 patent describes long applications for the mobile
4 terminal including in cordless phones. Unified describes
5 (phonetic) this disclosure in its reply and Carucel did not address
6 it in its surreply.

7 Turning to slide 14. Dr. Madisetti's testimony confirms the
8 broader plain meaning of mobile device. As he points out the
9 plain meaning of mobile device was never limited to cellular
10 devices and he explains how easy it would be to specify as much
11 in the claims to serve their noted (phonetic) function. Carucel
12 declined to depose Dr. Madisetti on this testimony and Mr.
13 Lanning, Carucel's expert, does not refute this. His testimony is
14 on slide 15.

15 Here, Mr. Lanning explains that he did not draft these
16 constructions but merely applied Carucel's attorney construction
17 and his declaration only testifies to an example of what may fit
18 the plain meaning. As he confirmed in his deposition the phrase
19 "such as" is non-exclusive and we note this because in its
20 surreply, Carucel has accused Unified of using attorney argument
21 to construe the claims. But it's Carucel that's pushing attorney
22 argument.

23 In fact, turning to slide 16 Carucel's legal theory for its

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1 construction has shifted. Carucel first proposed in its response
2 that its construction was based on plain meaning. When faced
3 with the obvious criticisms of this position, Carucel switched
4 theories in its surreply arguing that certain statements
5 constituted disclaimers and more recently in its surreply in
6 Volkswagen, Carucel suggests that those same statements did not
7 rise to the level of disclaimer and now on slide 31 of its
8 demonstratives, Carucel indicates the specification defines
9 mobile device.

10 As we have we -- we have some case law on slide 11 just as
11 examples, but there are exacting standards for construing terms
12 to be narrower than their plain meaning. So we'll look at what
13 part of the specification Carucel identifies as limiting and show
14 why Carucel's wrong. But first on slide 17 --

15 JUDGE KORNICZKY: Excuse me counsel. This is Judge
16 Korniczky. So what is -- what does Unified believe the
17 construction of mobile device is?

18 MS. CALLAGHAN: Well, we don't think a construction is
19 necessary but it reacts (phonetic) with the plain meaning of
20 mobile devices. It's a device that is mobile, it isn't stuck to one
21 place. It's capable of being moved, and the claims themselves
22 specify what a mobile device must use. They must send signals
23 through and receive signals from an apparatus to communicate

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1 with the base station and it's relevant here but it's kind of gotten
2 lost in the briefing. Mobile device is not the focus of the claim.
3 The apparatus is what's claimed and what the patent is describing
4 to be modeled. Mobile device is ancillary, it's just something
5 that the apparatus sends signals to and receives the signals from.
6 The specification even refers repeatedly to a generic mobile unit.
7 It doesn't even use the phrase mobile device.

8 JUDGE KORNICZKY: Counsel, do you believe that the
9 mobile unit and the mobile device are used interchangeably or
10 are they different?

11 MS. CALLAGHAN: I mean I think that they're both
12 generic. I don't think it's probably that they were used
13 interchangeably because the specification doesn't use mobile
14 device. I think they're meant to generally be the same though. I
15 think that is the basis -- the only possible basis for mobile device
16 in the specification.

17 JUDGE GIANNETTI: Counsel, there must be some
18 meaning other than just device. I mean a device, it's obviously
19 some sort of communication device, isn't it? The mobile device
20 could be a car seat, a car seat could be a mobile device.
21 Device is a generic term that goes beyond communications
22 devices.

23 MS. CALLAGHAN: Well if a car seat were able to send

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1 signals to an apparatus and communicate with a base station and
2 receive signals from the base station via the apparatus, I think it
3 would meet the construction of mobile device in the claims. You
4 know, and again in slide 13 the specification emphasizes that
5 what's desirable is a structure that allows the terminal in all
6 applications including cordless phones and home and office, in
7 shopping malls, et cetera. It's not limiting what the device is.
8 Nothing in the specification purports to limit mobile device.
9 You know, the claim defines the function of the mobile device so
10 I'm not just saying it's any device, it has to be a mobile device,
11 but if the function it has is communicating with the base station
12 via the apparatus and it's ancillary to the claims.

13 JUDGE GIANNETTI: Okay. I'm looking at claim 11 and
14 all it says is that it's -- the transmitter configured to transmit
15 radio frequency signals to a mobile device. Doesn't say anything
16 more about the device. I mean it's -- inferentially it receives
17 radio frequency signals but it doesn't say anything about what
18 the mobile device does. Obviously it must be some sort of
19 communication device, right?

20 MS. CALLAGHAN: Yes. It needs to be a mobile robial
21 (phonetic) communication device.

22 JUDGE GIANNETTI: Okay.

23 MS. CALLAGHAN: But we think that fits the plain

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1 meaning of the claim and --

2 JUDGE GIANNETTI: Well what do you think of, I may be
3 oversimplifying Patent Owner's theory and we'll hear from them
4 on this I'm sure, but what do you think of the argument that this
5 patent is about cell phones, cellular devices, and so when it talks
6 about a mobile device it's talking about a cell phone or
7 something that communicates through the cell network. Why is
8 that such a stretch?

9 MS. CALLAGHAN: Well, the construction doesn't say it's
10 a cell phone and you may want to ask them about that. I think
11 they're just basically trying to read out a basic cordless device to
12 get around the prior art rather than limit the claim in a
13 meaningful way. But in any case there are two overarching
14 reasons, Your Honor, why the claim isn't limited to a cellular
15 phone, and basically Carucel does not have the law on its side
16 and it doesn't have the facts to support this theory.

17 As to the law, both parties agree that mobile device has a
18 plain meaning that includes, for example, PDAs or laptops. But
19 Carucel is arguing for something narrower but these devices
20 don't count, even though they would otherwise unless they fit
21 these five criteria on slide 12. But, and we can turn to slide 11,
22 these cases provide an exacting standard. Disavowal must be
23 explicit and we --

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1 JUDGE GIANNETTI: Yes. We're familiar with the cases.
2 I know them well. What is it in the specification or in the
3 intrinsic evidence that rules out that it can't be -- I mean if you
4 read this patent it's about cell phones. The focus is on cell
5 phones. Why is it such a stretch to call the mobile device --
6 which the patent doesn't say much about the mobile device and
7 at least the claim doesn't -- why is it such a stretch to say that
8 that must be a cell phone or a cellular device?

9 MS. CALLAGHAN: The patent isn't about cell phones, we
10 respectfully disagree, but the patent is about this apparatus, this
11 mobile base station and it does talk about in the context of
12 cellular communication but it doesn't limit itself to cellular
13 communication.

14 JUDGE GIANNETTI: All right. Thank you.

15 MS. CALLAGHAN: But we're happy to walk through what
16 Carucel cites as limiting. So, and before we do I just want to go
17 to slide 17 to address Carucel's first requirement that a mobile
18 device must be able to communication with a moving base
19 station. In parent patent, the Applicant recited communicating
20 with moving base station shown in the fourth -- for the first few
21 blocks, but in the 023 patent they just said apparatus and so the
22 Patent Owner showed that they were perfectly capable of
23 claiming the excluded concepts that Carucel kind of likens

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1 (phonetic) to the 023 claims and on slide 18, we note that the
2 apparatus is limited to these stations. Mr. Lanning, Carucel's
3 expert said no.

4 So with that, let's go through the part of the specification
5 Carucel tries to identify as limiting the mobile device with in
6 mind that both parties agree that there is a plain meaning for the
7 mobile device that includes non-cellular devices, Carucel's limit
8 by giving a narrower claim meaning. So on slide 19 is the first
9 of three passages that Carucel says are limiting. The fifth
10 statement is taken out of context.

11 We considered with a little more context on slide 20. You
12 see language that simply describes how calls were directed to the
13 correct device in the context of a specific embodiment, the
14 embodiment of figure 1 discussing CDMA phones and perhaps
15 this will answer your question regarding why this isn't limited to
16 cell phones. The specification confirms that figure 1 is referring
17 to a specific embodiment and that's at column 3, line 64 and in
18 column 6, lines 49 to 54, the specification confirms that the
19 radio interface is used in the base stations with only preferably
20 CDMA but, TDM/CDMA, not limited only to CDMA phones and
21 then finally in column 11, lines 22 to 26 it confirms that the
22 embodiments are illustrative only, not meant to limit the claims.

23 So moving on to the next two passages that Carucel cites on

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1 slides 21 and 22. These don't even have words of limitations and
2 you even see the opposite, but this is preferably what the system
3 does but the unit may be handed (phonetic) off to a base station
4 and discussing the claims and the arrangement of figure 1. None
5 of this language that Carucel points to insinuates the disclaimer
6 or meets the high bar of limiting a phrase to something other
7 than its plain meaning and if anything, this language does the
8 opposite.

9 So with that, unless there are any additional questions we'll
10 move on to the instituted grounds and before doing so, we'll just
11 note that Carucel's arguments regarding mobile devices in the
12 independent claims fall within this construction for both the
13 Massa and Thrower grounds but we contend that the claims are
14 obvious even if the Board were to adopt a limiting construction
15 that limited the mobile device to cellular devices.

16 So with that, moving to slide 26. In Massa, the primary
17 reference in grounds 1 to 3 discloses a handset 26 which is in
18 communication with a cellular accessory apparatus that is
19 configured to move relative to the earth because it's mounted on
20 a vehicle. The apparatus receives signals from the handset and
21 forwards them to a base station and vice versa. As mentioned,
22 Carucel's patentability argument is wrong because it's based on a
23 flawed claim construction, but assuming arguendo that Carucel's

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1 construction were correct and that the claims were limited to
2 cellular devices, we believe that they've improperly limited
3 Massa's disclosure.

4 On slide 27, Carucel repeatedly refers to Massa's invention
5 but focusing solely on the prior art invention or preferred
6 embodiments is improper as a matter of law. A reference must
7 be considered for everything it teaches, not just preferred
8 embodiments, and on slide 28, as discussed in Unified's reply,
9 Massa simply expresses a preference for the more basic handsets
10 because they would have been more cost effective than brick
11 cellular phones but a POSITA would have appreciated Massa's
12 disclosure that handheld cellular phones would have benefited
13 from the vehicular accessory apparatus because they also had a
14 limited range too. So even under Carucel's construction, the
15 concept of a cellular and mobile device that communicates with a
16 base station through a vehicle apparatus or a mobile apparatus is
17 obvious over Massa and Dr. Madisetti confirmed this and his
18 testimony here is unrebutted or unrefuted.

19 So with that I will go to the Thrower grounds on slide 29
20 unless Your Honors have any questions. Okay. Thrower teaches
21 a communal unit, the apparatus, that acts as a service area or
22 gateway for portable telephone units for mobile devices and it
23 acts as an intermediary transmitting signals between the portable

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1 telephone and the cellular base station. So (indiscernible) --

2 JUDGE GIANNETTI: Counsel, would you repeat -- would
3 you repeat what slide you're on. I didn't --

4 MS. CALLAGHAN: Twenty nine.

5 JUDGE GIANNETTI: Thank you.

6 MS. CALLAGHAN: Sure. Thank you.

7 JUDGE GIANNETTI: Thanks.

8 MS. CALLAGHAN: So the communal unit which is the
9 apparatus acts as an intermediary transmitting signals between a
10 portable telephone and a cellular base station. The communal
11 units are transportable such as on trains so they move relative to
12 the earth. Therefore, Thrower teaches most of the limitations of
13 claims 1 and 11, and turning to slide 30.

14 Carucel will tell you that Thrower's portable phone cannot
15 register with the cellular network. Thrower expressly refutes
16 this. Thrower discloses that the portable telephones are
17 registered with the cellular network via a gateway device so that
18 they can be reached (phonetic) for calls just like in the 023
19 patent. But Thrower at least satisfies the first part of Carucel's
20 construction and turning to slide 31, Thrower's portable phone is
21 not a cordless phone under Carucel's characterization because it
22 connects the multiple communal units or gateways. So the
23 portable telephone is more than a cordless device because it

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1 registers with and communicates with the cellular network via
2 multiple cellular gateways. So Thrower teaches the claimed
3 mobile device under other constructions.

4 Unless there are any other questions on the mobile device
5 issue or this part of the grounds, I'll move to the next disputed
6 issue regarding spatially separated antennas at slide 32. On slide
7 32, Unified relies on two references, Vogel for the Massa
8 grounds and Kaewell for the Thrower grounds for the claimed
9 spatially separated antennas. Carucel does not and cannot
10 dispute that the references teach spatially separated antennas,
11 rather the dispute centers on whether these antennas work on a
12 moving apparatus. The express teachings of the cited art, the
13 specification of the 023 patent itself, and both experts in this
14 case making any argument to the contrary.

15 On slides 32 and 33 both Vogel and Kaewell explain that
16 these types of antennas were particularly advantageous in
17 situations where the apparatus is moving fast such as to prevent
18 fading and on slide 34 the 023 patent itself in fully existing
19 commercially available antennas using known techniques to
20 accomplish antenna diversity. So Carucel's argument that a
21 POSITA would have needed to make nonobvious adjustments to
22 implement a spatially separated antenna on Massa's and
23 Thrower's systems flies in the face of its own patent and this is

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1 especially true for Thrower which illustrates a communal unit
2 having multiple antennas in figure 2, which we've pointed out in
3 the petition at pages 53 to 54.

4 Finally, on slide 35, both experts have confirmed a
5 POSITA's familiarity with antenna diversity technology.
6 Carucel's arguments are based on the wrong standards, bodily
7 incorporation of one reference into another. The prior art, the
8 023 patent, and testimony from both experts showed that the
9 claimed spatially separated antennas are obvious under the
10 correct legal standards.

11 On slide 36, I will turn to the next disputed issues unless
12 Your Honors have any questions on spatially separated antennas.
13 Okay. On slide 36, claim 16 recites that the apparatus has a
14 controller configured to select a best signal. The 023 patent
15 describes that a signal quality indicator is based primarily on
16 signal strength in a well known fashion.

17 Consistent with this, turning to slide 37, Unified relies on
18 Massa which teaches constantly monitoring base stations to
19 select the station having the strongest signal. Unified also relied
20 on Toshiba for the concept of a controller selecting the best
21 signal and before moving on I will note for the record that
22 Carucel does not challenge the obviousness of claim 16 above
23 and beyond claim 11 based on the combination of Thrower and

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1 Kaewell.

2 So on slide 38, Carucel's argument regarding claim 16 falls
3 with its flawed and informally named claim construction theory.
4 Its arguments that are based on what it argues is a lexicography
5 of best signal from a passage that doesn't even mention best
6 signal. Carucel relies on this paragraph on slide 38 based on the
7 use of the phrase "i.e." but this language is simply referring to
8 what is described in "earlier embodiments," not redefining the
9 word best. We have contended that this isn't enough to show a
10 lexicography of best. This language isn't even in the passage
11 Carucel cites and it's just an exemplary embodiment. The "i.e."
12 isn't definitional here. So nothing here suggests that best
13 requires error rate optimization as a matter of definition but that
14 is what Carucel will tell Your Honors. However, even assuming
15 arguendo that this language was somehow limiting, the claims
16 are still obvious.

17 Turning to slide 39. Dr. Madisetti testified how measuring
18 a stronger signal would commonly take error rates into account.
19 So Massa's selection of the strongest signal from the perspective
20 of a POSITA would render selecting a best signal based in part
21 on error rate into account and again, Carucel did not depose Dr.
22 Madisetti again.

23 And finally Your Honors, I'll turn to slide 40 for one last

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1 comment on best signal because Carucel seems to lose sight of
2 the fact that this is an obviousness inquiry (phonetic). Mr.
3 Lanning testified that determining the correct channel based on
4 signal strength and error rates was a core concept in the prior art.
5 He also specifies that these techniques have been used since the
6 first generation of cellular phones. The obviousness inquiry
7 necessarily takes a skilled artisan's knowledge into account and
8 incorporating something that was common knowledge simply
9 does not confer patentability and both parties agree that this was
10 common knowledge.

11 With that I will move to claim 22 on slide 41, unless Your
12 Honors have questions on the best signal issue for the Massa
13 grounds. Okay. On slide 41 claim 22 --

14 JUDGE GIANNETTI: Counsel, you've used about 25
15 minutes, okay? I think you initially said you were going to go
16 for about 30 minutes and I wanted to let you know that that's
17 what my clock shows. Continue.

18 MS. CALLAGHAN: Thank you, Your Honor. So claim 22
19 recites that the fixed port signal transmitted from the fixed port
20 includes common data or data that is in common. On slide 42
21 this is exactly what the art shows. Padovani cited for the Massa
22 grounds and Blakeney cited for the Thrower grounds describe the
23 different stations transmitting identical or common pseudo-noise

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1 codes as pilot signals. There's no dispute that the PN codes
2 being described are identical or common.

3 Rather, jumping to slide 44, in its response Carucel relies
4 on Mr. Lanning, who says that pseudo-noise codes do not carry
5 data but the claim doesn't require carrying data. The claim
6 simply recites transmitting common data. So where does Mr.
7 Lanning get this concept? Well, what he actually means -- what
8 Mr. Lanning actually means is that the prior art does not disclose
9 common baseband data. But where do they get this concept of
10 baseband data? Do they refer to the specification? No. The
11 specification doesn't use the phrase common data or baseband
12 data. Rather, Carucel relies on an extrinsic reference which also
13 does not use the phrase common data but does use the phrase
14 baseband data modulation, and then Mr. Lanning simply equates
15 the two without any basis.

16 There's so many leaps here, Your Honor. Mr. Lanning's
17 testimony here comes out of thin air and perhaps recognizing
18 this, on slide 45 Carucel walks back its arguments that claim 22
19 in its surreply and drops the baseband theory all together. Now,
20 Carucel says the first paragraph here suggests that common data
21 only includes voice signals and call related information. But
22 again, there is no mention of the phrase common data here.
23 There is simply an example of data being communicated that

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1 includes voice and call related information. It is a leap to say
2 that the 023 patent requires as a matter of definition data in
3 claim 22 to be limited to voice and call related information.
4 There is no suggestion here that it excludes through the noise
5 codes from the ambit of data and the second paragraph at the
6 bottom here indicates that data has its plain meaning including
7 non-information data added by an encoder.

8 With that I'll turn to slide 46 to discuss claim 23 and I'll try
9 to get through this in the next couple of minutes. The dispute --
10 so claim 23 recites an apparatus wherein transmission of the
11 signals is delayed by a different time and on slide 47 Unified
12 relies again on Padovani and Blakeney for the Massa and
13 Thrower grounds respectively. Specifically, Petitioner relies on
14 the prior art's disclosure of different stations (indiscernible) the
15 PN spreading code, not just the phase of the code.

16 On slide 48, Carucel in a desperate attempt to rely on a
17 background reference, Lee, from years before Padovani and
18 Blakeney to suggest that the prior art is doing something
19 different than what it says it's doing. But they misinterpret their
20 own extrinsic reference in two critical ways. First, Mr. Lanning
21 says that the figure here, these two vertical lines signal the start
22 and end of transmission. But this figure expressly refers to the
23 length of a PN code period. Second, Carucel says Lee -- again

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1 not Padovani or Blakeney -- discusses transmitting signals using
2 the same timing but here Carucel is conflating using the same
3 clock standard to synchronize timing with transmitting signals at
4 the same time, and I know I'll cut into my rebuttal time a little
5 bit to discuss the last issue on motivation to combine and
6 reasonable expectations of success on slide 39.

7 Here, the Petitioner provided direct evidence for motivation
8 to combine and reasonable expectations of success including
9 express motivations in the art and analysis from its expert. Does
10 Carucel engage with this? No. Instead they cite ancillary issues
11 citing that the analysis was conclusory. They used the word
12 conclusory 30 times in their response and that one of the primary
13 references was not proper for which they have cited no legal
14 standard and they rely on type ofs in the petition where the
15 petition -- one many of the type of action, not type of at all --
16 but two, the petition provides the evidence and Carucel does not
17 dispute the substance of the art. Just saying something is
18 conclusory does not make it so, and as the Board correctly
19 concluded in its Institution decision, Unified provided reasons to
20 quantify (phonetic) expert testimony and express motivations in
21 the references themselves to support motivations to combine and
22 reasonable expectations of success.

23 So Unified will otherwise rely on its papers for these

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1 ancillary issues and reserve any additional time for rebuttal. I
2 think I have about 13 minutes and 30 seconds.

3 JUDGE GIANNETTI: Exactly. All right.

4 MS. CALLAGHAN: Thank you, Your Honor.

5 JUDGE GIANNETTI: Thank you very much. All right.

6 Mr. Richardson, are you up next?

7 MR. RICHARDSON: Yes, Your Honor.

8 JUDGE GIANNETTI: All right. Whenever you're ready,
9 and you're reserving -- what is it, 30 minutes?

10 MR. RICHARDSON: Thirty minutes for rebuttal.

11 JUDGE GIANNETTI: Okay. All right. So whenever you
12 are ready, Mr. Richardson, you may proceed. Let me just get
13 your slides up here. Let's see, okay and whenever you're ready
14 you may proceed.

15 MR. RICHARDSON: Thank you, Your Honor. As
16 mentioned previously my name is Ryan Richardson from the law
17 firm of Sterne, Kessler, Goldstein, & Fox and specifically here
18 on behalf of Volkswagen Group of America in the four
19 proceedings involving the 023, the 543, 701 and 904 patents.

20 Now as Your Honors are aware, each of these four patents
21 that are in dispute in the Volkswagen petitions share the same
22 specification and share similar claims that have either identical
23 or overlapping claim limitations. Now these claims in the

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1 specification of each of these patents at their fundamental core,
2 as my co-counsel from Unified Patents mentioned, are directly
3 related to an intermediary device that's intended to be
4 implemented in between an admittedly conventional fixed base
5 station and an admittedly conventional mobile device. At no
6 point in these proceedings, Your Honor, has Carucel made any
7 allegation or indication that the fixed base station or the mobile
8 devices are novel in any way and if we look at Volkswagen
9 Petitioner's slide No. 3.

10 On slide 3 we see the alleged problem that Carucel was
11 attempting to solve with this intermediary device which they
12 refer to as a moving base station. The alleged problem, as they
13 refer to it, was a hand-over problem. It was a problem that arose
14 when mobile devices would move in and out of cell sites at high
15 rates of speed which could result in dropped calls.

16 So if we look at slide 4, Your Honors, we see the primary
17 embodiment of Carucel's alleged invention and we see slide 4
18 showing a depiction of figure 1, specifically of the 023 patent,
19 and we see here Carucel's alleged invention where they put this
20 intermediary device on a railway system that was intended to be
21 installed along every highway, street and road in the United
22 States. Obviously such an implementation never happened so
23 Carucel is now forced to try and read its claims on modern day

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1 infotainment systems installed in today's automotive vehicles.

2 Now it's because of this stretched read, Your Honor, that
3 Carucel is forced to take claim construction positions across
4 these four proceedings that are divorced from the claims
5 themselves, the specification and the prosecution histories of
6 each of these four patents and, Your Honor, we'll address these
7 claim construction positions in detail. However, important to
8 note that each of these constructions are not supported by the
9 evidence of record but regardless of that fact, Petitioner
10 Volkswagen has provided ample evidence in its papers across the
11 four proceedings that illustrate why the applied references not
12 only disclose each and every claim term under their plain and
13 ordinary meaning but also why they disclose these claim terms
14 under Carucel's overly narrow constructions, and with that Your
15 Honor I would like to ask whether there was any specific issues
16 or points that you would like me to focus on during my time or if
17 not, I can pick up where Unified Patents left off with a couple of
18 issues relating to the mobile device claim construction issue.

19 JUDGE GIANNETTI: So counsel, I do have a question and
20 since you've put up figure 1, one thing that's always puzzled me
21 is that in this particular embodiment, isn't it correct that the
22 mobile devices and this moveable apparatus, intermediate
23 apparatus, are moving independently?

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1 MR. RICHARDSON: That's correct, Your Honor. That is
2 the intention of the primary embodiment of each of the four
3 patents in dispute here.

4 JUDGE GIANNETTI: Yes, the patent --

5 MR. RICHARDSON: Those are the --

6 JUDGE GIANNETTI: -- yes, the patent describes the
7 moving base stations as moving at around 60 miles an hour and
8 the mobile devices travelling presumably in automobiles, or
9 some other vehicle, travelling at between 30 and 90 miles an
10 hour; is that your understanding of what it says?

11 MR. RICHARDSON: Correct, Your Honor. So the
12 discussion of figure 1 in these particular new elements, it's
13 broad. The figure shows what it shows and we just walked
14 through that, but the specification explains a wide range of
15 speeds that the mobile device can move at. They talk about
16 pedestrian traffic. They talk about automotive vehicles
17 travelling at highway speeds and then there's also a fence
18 (phonetic) in some of the specifications that disclose that
19 sometimes this moving base station can be removed from a
20 railway system and implemented in some type of other vehicle in
21 and of itself that travels at a speed that's related to or similar to
22 the speed of the mobile device. So it's (indiscernible) --

23 JUDGE GIANETTI: But not necessarily -- not necessarily

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1 identical to them. Just to go back to an issue, and I'm not sure
2 whether it's an issue but it's something that has puzzled me in
3 reviewing this case is the proposed construction for the
4 preamble. I believe that it uses the term comparable, is that the
5 term that was in there in the District Judge's construction?

6 MR. RICHARDSON: Yes. I'd have to pull that up, Your
7 Honor, but --

8 JUDGE GIANNETTI: It doesn't strike me as reflecting the
9 idea that the device, the mobile device and the mobile base
10 station are moving independently, and that's the comment that I
11 make but apparently there's no -- doesn't seem to be any contest
12 over that claim construction and the parties seem to be content
13 with the District Court's construction, but that's always puzzled
14 me about that construction about this case.

15 MR. RICHARDSON: Absolutely, Your Honor. So first
16 and foremost that is not an issue in dispute. Neither party has
17 contended whether these two features would be implemented
18 within a single apparatus imparts novelty to the claims. Neither
19 party has taken that position so it's not an issue here. But
20 looking at how Carucel has applied these patents in the
21 corresponding District Court case, Carucel in essence cannot
22 take that position because Carucel is, as I mentioned in my intro,
23 attempting to read these claims on in-car infotainment systems

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1 where both the mobile device and the moving base station would
2 be implemented within the same vehicle and so Carucel by nature
3 of their positions, they are not raising that as a dispute.

4 JUDGE GIANNETTI: All right, thank you.

5 MR. RICHARDSON: You're welcome, Your Honor. So
6 anyway, Your Honor, I'll skip forward to slide 17 of Petitioner's
7 slide deck and again I'd just like to reiterate that for the purposes
8 of our discussion here today Petitioner Volkswagen is going to
9 primarily focus on the disputed issues that remain in the four
10 proceedings and rest on the appears for each of the issues that
11 have not been called into dispute. But obviously, Your Honors,
12 if you have any questions on those other issues we'd be happy to
13 address them as well.

14 So on slide 17, Your Honors, we see the issues that are in
15 dispute specifically relating to the 023 patent. There's four
16 general categories; the claim construction dispute, whether the
17 Ito combination discloses mobile device and best signal, whether
18 the Gilhousen combination discloses various claim elements and
19 whether there's a motivation to combine the two sets of grounds
20 that Petitioner has set forth for the 023 patent.

21 So addressing -- if we move to slide 18, Your Honors,
22 picking up where Unified Patents left off and I believe Your
23 Honors raised some questions with respect to the mobile device

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1 claim construction dispute and so I'd like to provide some more
2 clarity on a couple of points that were raised there as I believe
3 that there is some evidence in the proceeding particularly
4 pertaining to Volkswagen that can help clarify some of those
5 points. So just on slide 18, Your Honors, we see again the claim
6 construction positions taken by Volkswagen Group of America
7 and Carucel in this particular proceeding.

8 First and foremost Volkswagen has taken the position that
9 plain and ordinary meaning should be applied to the mobile
10 device term. Alternatively, Your Honors, if you believe that a
11 specific construction is needed to resolve the patentability
12 dispute, Volkswagen sets forth that the appropriate construction
13 would be a moveable device capable of receiving and
14 transmitting radio signals and as you --

15 JUDGE KORNICZKY: Counsel --

16 MR. RICHARDSON: Yes.

17 JUDGE KORNICZKY: -- this is Judge Korniczky. So what
18 is the plain and ordinary meaning of mobile device?

19 MR. RICHARDSON: So we believe the plain and ordinary
20 meaning is the alternative construction that's listed on slide 18,
21 Your Honor. So the plain and ordinary meaning, the reason that
22 we believe it's the construction that's identified in slide 18 is
23 because the plain and ordinary meaning, as Your Honors are

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1 aware, needs to be resolved with an eye towards the specification
2 and an eye towards the prosecution history of the patent in
3 dispute and so with these two pieces of evidence in mind we see
4 that the sole guidance and the most important guidance on this
5 issue tells us that the mobile device is intended to be something
6 that moves and something that transmits and receives radio
7 signals. There's nothing in the specification, the prosecution
8 history or any other extrinsic evidence that would lend to a
9 construction that would be different than this plain and ordinary
10 meaning.

11 JUDGE KORNICZKY: And so your position is that the
12 device does not have to register with the cellular network?

13 MR. RICHARDSON: Our position, Your Honor, is that the
14 device does not need to register with the cellular network on its
15 own. I say on its own because there are multiple ways that a
16 device, even if it was a cellular device, there are multiple ways
17 where it could become registered with the network. It could
18 register by a direct communication with the cellular network or
19 with the fixed base stations but it also could become registered
20 through an indoor (phonetic) communication for a moving base
21 station and both of these potential registrations are within the
22 scope of the 023 patent as well as all of the other challenged
23 patents and so it would be improper to import a construction for

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1 mobile device that would require it to be the device that
2 specifically perform the registration and perform every step of
3 the registration process, and so I'll move to slide 19 and I believe
4 --

5 JUDGE KORNICZKY: Well, sorry, let me back up a
6 second then. Are you saying that moveable device does not --
7 may register with the cellular network but doesn't have to?

8 MR. RICHARDSON: So the cellular device as, or excuse
9 me, the mobile device as described in the 023 patent, as Carucel
10 has pointed out in its papers, there is one embodiment where it is
11 described as becoming registered with the cellular network. It
12 does not provide details as to how that registration process takes
13 place nor does it explain that that registration process is required
14 across every embodiment of the patent. Therefore, when I say
15 that the device may register I'm saying that there is an
16 embodiment in the 023 patent that allows for a registration
17 process to take place.

18 JUDGE GIANNETTI: And is that embodiment the slow --
19 what I would call the slow speed embodiment where the device
20 is, where you're operating at less than 30 miles an hour?

21 MR. RICHARDSON: That's one option, Your Honor. The
22 specification does call out an instance where if the mobile device
23 is moving at a slower in speed --

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1 JUDGE GIANNETTI: Right.

2 MR. RICHARDSON: -- it can directly communicate with
3 the fixed base station.

4 JUDGE GIANNETTI: Right.

5 MR. RICHARDSON: However, registration is --

6 JUDGE GIANNETTI: And presumably that would require
7 some sort of registration, wouldn't it?

8 MR. RICHARDSON: What could happen, Your Honor, is
9 that the mobile device could become registered with the cellular
10 network through an indirect communication through a mobile at
11 the moving base station and after that initial registration process
12 the device could stop moving. The person could get out of the
13 vehicle or start walking and so it could change from a high rate
14 of speed to a low rate of speed, all while being within a single
15 cell site and so in that particular instance, that mobile device
16 would not need to perform its own registration if that was
17 already performed in the indirect concepts as just described.

18 JUDGE GIANNETTI: All right.

19 MR. RICHARDSON: So, Your Honor, maybe it makes
20 sense actually to skip forward to slide 22, Your Honor, and in
21 slide 22 we see there is evidence, it's of record in this particular
22 proceeding, that supports Volkswagen's position that the plain
23 and ordinary meaning should be applied to the mobile device

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1 term and we see that this is routed in the patent claims, the
2 specification and the prosecution history and since we were just
3 discussing the specification I do want to point out the portion of
4 the specification on slide 22 which specifically identifies an
5 embodiment and operation where the mobile device does not
6 need to, and in fact doesn't communicate directly with the fixed
7 base stations and this disclosure comes from column 3 and
8 begins at line 21 of the 023 specification, and we see here that
9 the patent describes an instance where the mobile unit does not
10 receive communications from the fixed port but only from the
11 moving base station and it eliminates any direct communication
12 from the mobile unit to the fixed port.

13 Here, just based on this disclosure alone it's improper to
14 limit the construction of mobile device to a device that is
15 required to communicate directly with a fixed base station. This
16 is also supported by the prosecution history and this is again
17 shown on slide 22. We see that in the prosecution history
18 Carucel, when describing the mobile units as discussed in the
19 specification, said that these things can be broad. They can
20 include anything from telephones to radio modems or other types
21 of radios. There is nothing in this, or from the prosecution
22 history or any portion of the prosecution history that would limit
23 this mobile unit to a cellular device that would limit this mobile

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1 unit to having to have the capability to perform an entire
2 registration process on its own when at this device to having to
3 be able to communicate directly with the fixed base stations.

4 JUDGE KORNICZKY: Counsel.

5 MR. RICHARDSON: Yes.

6 JUDGE KORNICZKY: This is Judge Korniczky again. Are
7 you using the term mobile units and mobile device
8 interchangeably?

9 MR. RICHARDSON: Yes, Your Honor.

10 JUDGE KORNICZKY: Is the Patent Owner using those
11 two terms interchangeably?

12 MR. RICHARDSON: As far as I know they are, Your
13 Honor.

14 JUDGE KORNICZKY: All right, thank you.

15 MR. RICHARDSON: So moving back a couple of slides,
16 Your Honor. Slide 19 of Petitioner's slide deck, again
17 Volkswagen has proposed that plain and ordinary meaning is
18 appropriate. So besides pointing to why Carucel's proposed
19 construction is overly limiting, there's evidence that shows why
20 the plain and ordinary meaning is appropriate and the first piece
21 of evidence as shown on slide 19 is that such a construction is
22 consistent with how this term was applied and construed in a
23 previous District Court case involving these same patents and

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1 similar prior art. At no point in that proceeding did Carucel
2 argue that this term could be given anything other than its plain
3 and ordinary meaning. Only after the Institution decision in
4 these proceedings did Carucel decide to import any overly
5 limiting and overly narrow construction.

6 Second, Your Honor, as Unified Patents illustrated in their
7 portion of time this morning, the term mobile device is an
8 ancillary claimed feature of every claim, every challenged claim
9 across the four patents that Volkswagen challenges. Every
10 challenged claim recites an apparatus, this intermediary device
11 that we were discussing. Only tangentially and ancillary does it
12 ever refer to a mobile device. It does not refer to -- it does not
13 disclose how that mobile device or what that mobile device does
14 when it receives a signal from the moving base station. It does
15 not disclose what processing needs to take place. It doesn't give
16 any guidance at all and as Your Honors are aware, there is long
17 standing precedence, in particularly In re Otto which is again
18 shown on slide 19 that says when a claim includes a material or
19 article which is merely worked upon by the structure being
20 claimed, that article does not impart patentability to the claims.
21 That combined with the fact that Carucel has admitted on
22 numerous occasions that the ancillary claim mobile device is
23 conventional and the same thing that's in the backgrounds where

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1 again Your Honors proposed that no construction and no
2 patentability need to be prescribed to a mobile device beyond its
3 plain and ordinary meaning.

4 JUDGE GIANNETTI: And so, Mr. Richardson, Judge
5 Giannetti. I'm familiar with the workpiece claims but would you
6 say that this mobile device that's in the claims here is a
7 workpiece? I don't see any work being done on it, it's just there
8 and it's communicating but it's not really being modified in any
9 way. I don't think of it as a workpiece. Do you think it fits
10 within the scope of those claims?

11 MR. RICHARDSON: We do, Your Honor. We think that it
12 fits within the scope of those claims for a couple of reasons.

13 JUDGE GIANNETTI: By claims, I meant the cases. I
14 meant cases of the scope.

15 MR. RICHARDSON: Yes, exactly. I'm sorry, I meant
16 cases as well. We do believe that it fits within those cases, Your
17 Honor, for a number of reasons and particularly because, as I
18 mentioned, the mobile device as it's recited in the claims and
19 discussed in the specification there is no detailed disclosure of
20 the inner workings of that particular device. All we know is that
21 a radio signal is transmitted to that device. We don't know what
22 type of action or response of action takes place by that device
23 because of that transmitted signal. All we know is that it is there

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1 to receive it and that's it and so without knowing anything
2 further, Your Honors, we would propose that it does fall within
3 those cases.

4 JUDGE GIANNETTI: All right, thank you.

5 MR. RICHARDSON: You're welcome, Your Honor. And
6 Your Honors, if there are no more questions on the mobile device
7 issue I'll move to the second claim construction issue that applies
8 to the Volkswagen proceedings and this particular claim
9 construction starts on slide 23 of Petitioner's slide deck and
10 particularly relates to automotive vehicle.

11 Now automotive vehicle is a term that only shows up in one
12 dependent claim and the parties' proposed constructions are
13 shown on slide 23. Again, Volkswagen Group of America
14 believes that the plain and ordinary meaning should be applied
15 and if Your Honors need guidance as to what the specific plain
16 and ordinary meaning is of this term Volkswagen proposes that it
17 is a vehicle moving by means of its own power.

18 JUDGE GIANNETTI: So, for example -- this is Judge
19 Giannetti -- so for example, an airplane. You would contend that
20 an airplane is an automotive vehicle?

21 MR. RICHARDSON: Yes, Your Honor. And we can
22 contrast that, Your Honor, with Carucel's proposed construction
23 of automobile. Now Carucel does not give us any guidance as to

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1 what it believes automobile contains. It does not point to any
2 dictionary definitions to provide any guidance as to the
3 parameters of an automotive vehicle, excuse me, to what the
4 parameters of an automobile. However, if Your Honors open
5 pretty much any generic dictionary to find the definition of
6 automobile you would see that generally this definition relates to
7 a four wheel vehicle and Your Honors, there is nothing in the
8 claims, the specification or the prosecution history of any of the
9 challenged patents that would seemingly limit the automotive
10 vehicle or the vehicle used to transport either the moving base
11 station or the mobile device, to something having four wheels
12 and, Your Honor, taking such a position would eliminate the
13 possibility of this particular patent being read on motor cycles or
14 buses or semitrucks and there's no indication that the inventors
15 of the 023 patent or any patent intended to carve out such types
16 of vehicles from their invention.

17 And, Your Honor, we even see this is not the intention
18 because as we discussed earlier the moving base station as we
19 saw in figure 1 can be moved by way of rail or it can be moved
20 by any other vehicle that could conceivably transport a small
21 moving base station but (indiscernible) --

22 JUDGE GIANNETTI: But counsel --

23 MR. RICHARDSON: Yes.

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1 JUDGE GIANNETTI: -- wouldn't you be better off arguing
2 that, and maybe you are and you can correct me if I'm wrong, but
3 wouldn't you be better off arguing that if it works in a plane it
4 would be obvious to apply the same technique to an automobile?

5 MR. RICHARDSON: Absolutely, Your Honor, and that's a
6 --

7 JUDGE GIANNETTI: Do you make that argument?

8 MR. RICHARDSON: We did and that's a helpful segue to
9 my next point and I will attempt to find the correct slide for you.
10 But in the meantime we did make that argument with respect to
11 the Gilhousen865 reference and we made that argument
12 particularly in our Petitioner reply when Carucel first raised this
13 construction in their primary response.

14 JUDGE KORNICZKY: Counsel, this is Judge Korniczky.
15 Can you tell me what page that is in your surreply and even your
16 petition?

17 MR. RICHARDSON: Yes, I will pull that cite for you in
18 one second.

19 JUDGE KORNICZKY: Or you can have one of your
20 colleagues get it and give it to us later. I don't mean to interrupt
21 but it would be helpful to have that cite.

22 MR. RICHARSON: (Indiscernible) I'm going to rely on my
23 team.

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1 JUDGE KORNICZKY: Thank you.

2 JUDGE GIANNETTI: That'd be fine.

3 MR. RICHARDSON: So that specifically identified on
4 slide 42, Your Honor, and the portion of the record that's
5 identified on slide 42 comes from paragraph 61 of Petitioner's
6 expert's declaration and so as identified here on this particular
7 slide in this particular portion of the declaration, Gilhousen865's
8 teachings are not unique to an airplane. There's nothing in the
9 disclosure of Gilhousen865 that would limit it as such that a
10 person of ordinary skill in the art reading the disclosure would
11 understand that really the invention that is being described is
12 what they call an airborne base station, but it's really a moveable
13 base station that's intending to act as an intermediary between
14 what they call radio telephones and fixed ground base stations,
15 and we have further evidence in the record, Your Honor, as to
16 why the teachings of Gilhousen865 are not limited to an airplane
17 and we need look no further than from Gilhousen itself in
18 column 3, and in a large portion of column 3 Gilhousen discusses
19 another reference called the Tiedemann reference and they
20 specifically rely on that reference to give guidance about how
21 the handoff and registration process could be performed in the
22 Gilhousen system and if we look to the Tiedemann reference as
23 Gilhousen865 tells us to do, we see that the Tiedemann reference

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1 is specifically directed to vehicles moving on a highway. So
2 looking at that additional information, Your Honor, we have
3 clear evidence that Gilhousen was intended to incorporate
4 concepts from vehicles on a highway and should be also
5 interpreted to apply to vehicles moving along highways.

6 JUDGE GALLIGAN: Counsel, this is Judge Galligan. Just
7 wanted to clarify. I believe you said you were talking about
8 Gilhousen865. In the future and for the Patent Owner as well
9 when you're, because we have other Gilhousens in the record,
10 just refer to the 865 or 390 just to clarify for the benefit of the
11 transcript. Thank you.

12 MR. RICHARDSON: Absolutely, Your Honor. And so,
13 Your Honors, those are the two claim construction issues that are
14 in dispute. Throughout the proceedings, Your Honor, the
15 Petitioner has laid out reasonings as to why each of the
16 combinations of references, the Ito combination and the
17 Gilhousen865 combination, why both of those sets of grounds
18 disclose both mobile device and automotive vehicle under both
19 their plain and ordinary meaning and Carucel's limiting proposed
20 constructions. So, Your Honor, we would propose that it's of no
21 consequence as to which construction is actually adopted, and it
22 should be of no consequence to the final determination on
23 patentability for the claims of the 023 patent as well as the

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1 similar claims of the other patents.

2 And Your Honors, just to close the loop on this particular
3 point I direct Your Honors to slide 30 of Petitioner's slide deck,
4 and on slide 30 we see again specific evidence in the record and
5 from the references to show why the Ito combination of
6 references discloses mobile device even under Carucel's
7 proposed construction. We see here that Ito specifically, and I'm
8 drawing from column 6, line 32 of the Ito reference, discloses
9 that its -- what it calls PSS devices, so the portable devices, have
10 the ability to send its signals to a corresponding base station. It
11 also talks about having the ability to receive signals from the
12 base station to which it belongs and it has what it calls a
13 received field strength electric wave sensor and the purpose of
14 that sensor is to sense the strength of the signal coming from the
15 fixed base station. So, Your Honor, we see direct evidence that
16 it discloses this ability to directly communicate with the fixed
17 base stations, and we also see that Ito tells us this invention is
18 designed to be implemented in the context of known cellular-
19 type automotive systems, and again this comes from column 1,
20 lines 8 through 17 of the Ito reference. So a person of ordinary
21 skill in the art reading Ito would understand that its devices,
22 which are intended to work in cellular-type automobile telephone
23 systems, would have certain cellular capabilities, and those could

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1 include, and it would be obvious for them to include,
2 registration, and Your Honors, Petitioner has provided expert
3 declaration testimony as well as secondary sources to corroborate
4 why it would be obvious for cellular-capable devices to include
5 registration capabilities.

6 And similarly, Your Honor, if we move forward to slide 39
7 of Petitioner's slide deck and again we see this disputed issue
8 about a mobile device and this time as it pertains to the
9 Gilhousen865 and Gilhousen390 combination. Here again there's
10 specific evidence of record in the Gilhousen865 reference as well
11 as Petitioner's papers to show why this proposed combination
12 would still meet Carucel's proposed construction of mobile
13 device and on the left hand side of slide 39 we see that
14 Gilhousen865 in column 3 specifically discloses that its radio
15 telephones search for the strongest pilot signal of the next cell
16 and registers with that base station.

17 We also see in column 1, Your Honors, that Gilhousen
18 discloses its traditional aircraft radio telephones that, excuse me,
19 traditional aircraft radio telephones have the ability to
20 communicate and connect directly with 70 to 80 radio base
21 stations on the ground. We know that this was a capability of
22 aircraft radio-type telephones and we know that a person of
23 ordinary skill in the art would understand that this capability

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1 existed in Gilhousen865's radio telephones.

2 For further evidence of that, Your Honor, we see on the
3 right hand side of slide 39 Gilhousen865 discloses its radio
4 telephones, again its mobile devices, as having CDMA
5 capabilities. This is a cellular capability and it also discloses its
6 radio telephones as being compliant with the IS-95 standard,
7 another well known cellular telephone standard. So again, Your
8 Honor, for these additional reasons a person of ordinary skill in
9 the art would have read Gilhousen865, understood that it could
10 be used with cellular radio telephones and that that would
11 include the ability to register and directly communicate with
12 ground base stations.

13 And with that, Your Honor, if there are no other questions
14 as specifically relates to the 023 patent I will move on to the 701
15 patent and, Your Honor, specifically directing our attention to
16 slide 62 of Petitioner's slide deck. We see an illustration of how
17 independent claim 11 from the 023 patent corresponds to
18 independent claim --

19 JUDGE GIANNETTI: Counsel, so that you have a time
20 check, my watch shows that the Petitioners have about an hour
21 and ten minutes left, including your rebuttal time.

22 MR. RICHARDSON: Great. Thank you, Your Honor.

23 JUDGE GIANNETTI: Okay.

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1 MR. RICHARDSON: And on slide 62 we see an
2 illustration of how the independent claim from the 023 patent
3 relates to the 701 patent and we see that independent claim 11,
4 excuse me, plus the limitation of dependent claim 17 provides us
5 the exact limitations from claim 10 of the 701 patent. There are
6 no disputes that are different for the 701 patent and were already
7 discussed for the 023 patent, and so with that, Your Honor,
8 Petitioner Volkswagen is prepared to rest on the papers for the
9 701 patent and believe that they are -- each of the issues in the
10 701 patent were already covered by the 023 patent and so if there
11 are no specific issues for the 701 patent we'll move forward to
12 the 543 patent, Your Honors.

13 So moving forward, Your Honors, to slide 67 and on slide
14 67 again we see an illustration of how claim 11 from the 023
15 patent, which we have previously discussed, how that
16 corresponds to independent claim 10 of the 543 patent and again
17 we see there is significant overlap between these two particular
18 claims and so again, each of these overlapping elements from the
19 543 patent we believe to have been covered by the arguments
20 that we previously discussed for the 023 patent. On slide 67 we
21 see a couple of snippets of language that are highlighted in red.
22 These are the portions of the claim 10 that were not disclosed in
23 the 023 patent claim 11. However, it's important to note that

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1 Carucel has not raised any independent arguments with respect to
2 this additional subject matter in red.

3 Instead, Your Honors, the only issues that are in dispute
4 that have not been previously covered with respect to the 023
5 patent is the motivation to combine and Your Honors, if we
6 could turn to slide 76. On slide 76, Your Honor, we see the first
7 proposed combination as it pertains to the claims of the 543
8 patent. Petitioner Volkswagen in its papers has proposed that the
9 Ito reference can be combined with the Paneth reference to
10 disclose each and every feature of the independent claim in the
11 543 patent. On the right hand side of slide 76 we see Ito's MSS
12 receiver corresponds to the moving base station of the 543 patent
13 and on the left side we see Paneth's receiver and importantly,
14 both of these receivers are designed to achieve similar functions
15 in similar systems and when I say that, Your Honors, I'm
16 referring to the fact that both of these elements are intended to
17 be implemented within a wireless moveable system as an
18 intermediary device to facilitate communications between fixed
19 base stations and moving devices.

20 Now, Your Honors, looking at slide 77 of Petitioner's slide
21 deck we see that the Ito reference, and this motivation to
22 combine that we'll address here also applies equally to the Ito
23 combination that we discussed earlier with respect to the 023

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1 patent. Ito specifically in its discussion of its cellular-type
2 automotive system discloses that when communications occur
3 between mobile devices and fixed base stations, there can be
4 something known as fading or the high speed fading phenomenon
5 which discloses that you could have errors interjected into the
6 signals or the signals could degrade over the course of its
7 transmission. Ito identifies this as a specific problem and calls
8 out for the need for a solution.

9 Paneth provides one specific solution to this well known
10 problem. Paneth tells us that you can use spatially diverse
11 antennas again in a similar type system to achieve spatial
12 diversity in order to combat these fading effects that were
13 specifically identified in Ito and on slide 80, Your Honor, we see
14 one example combination of the Ito and Paneth references. We
15 see that the multiple spatially diverse antennas in Paneth
16 outlined in the box in red can be combined with the mobile base
17 station described in Ito.

18 Now, Your Honors, importantly, Petitioner's arguments did
19 not stop there. As we see on the left side of slide 80 Petitioner
20 identified, in addition to these spatially diverse antennas, a
21 person of ordinary skill in the art could have also combined
22 conventional signal processing circuitry described in Paneth and
23 one example would be Paneth's diversity combiner circuitry. A

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1 person of ordinary skill in the art would understand that you
2 wouldn't be able to just rip out Ito's antenna and paste in
3 Paneth's antenna, they would understand that processing circuitry
4 for those spatially diverse antennas would come with it and that's
5 what Petitioner has described in its papers.

6 A similar reason applies to the combination of Ito, Paneth
7 and Gilhousen and, Your Honors, we see that on slide 83 that
8 Carucel does not dispute that Ito, Paneth and Gardner can be
9 combined. Instead, Petitioner just says, excuse me, Carucel just
10 says that special care would need to be taken when making such
11 a combination and so as Petitioner explained, there is special
12 care, there is a guidance on what type of circuitry would need to
13 be pulled in from each of these references and a person of
14 ordinary skill in the art would always apply special care when
15 combining references and so, Your Honors, for those reasons
16 petitioner has laid out a motivation to combine, an example
17 illustration of how things could be combined and has shown that
18 there are not any barriers to making such a combination. With
19 that, Your Honors, if there are no additional questions on the 543
20 patent, I will move to the 904 patent.

21 Your Honors, moving to slide 86 of Petitioner's slide deck,
22 and on slide 86, Your Honors, we see again an illustration of
23 how claim 11 of the 023 patent corresponds to independent claim

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1 22 of the 904 patent. Now unlike our previous patents that we
2 looked at, the 701 patent and the 543 patent, the 904 patent does
3 have additional limitations that we'll also discuss here today and
4 those additional limitations are shown in red.

5 On slide 87, Your Honors, we see how the various different
6 independent claims of the 904 patent correspond to one another
7 and they're color coded to help Your Honors see the overlap in
8 limitations and then on slide 88 we see that the final independent
9 claim that was challenged by way of a second petition against the
10 904 patent includes one additional limitation of simultaneously
11 handing off the plurality of mobile units to a second fixed port of
12 the plurality of fixed ports.

13 Now, Your Honors, much like we did with the prior patents
14 Petitioner Volkswagen will again just focus on the issues that are
15 in dispute for the 904 patent and is prepared to rest on the papers
16 as they pertain to the undisputed issues of the 904 patent unless
17 Your Honors have any specific questions. Not hearing any
18 specific questions, Your Honor, we'll move forward to the first
19 issue that's in dispute as it pertains to the 904 patent and we can
20 flip forward to slide 97, Your Honors.

21 On slide 97 we're specifically looking at the combination of
22 Gilhousen865 and the combination of Gilhousen 390 and Carucel
23 has disputed whether that combination of references discloses the

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1 claim limitation of a transmitter adapted to transmit within the
2 frequency band the resultant signal of the mobile unit. However,
3 Your Honors, as we show on the left hand side portion on slide
4 97 Carucel's arguments misunderstand and misinterpret
5 Petitioner Volkswagen's position. Carucel's arguments are solely
6 focused on the Gilhousen390 reference and argue that the
7 Gilhousen390 reference does not disclose or imply any apparatus
8 such as a moving base station. However, Your Honors, as made
9 clear throughout Petitioner's papers at no point was Petitioner
10 relying on the Gilhousen390 reference for such a disclosure.
11 Instead, Petitioner has consistently relied on Gilhousen865 for
12 disclosure of the moving base station. The only thing that
13 Petitioner relied on Gilhousen390 for was disclosure about a
14 specific frequency ranges that could be used in Gilhousen865's
15 system. In fact, Gilhousen865 specifically tells us that its
16 system can employ CDMA techniques and specifically calls out
17 CDMA-type radio telephones but did not tell us what frequencies
18 would be possible with such CDMA-type radio telephones.

19 Therefore a person of ordinary skill in the art would have
20 looked to Gilhousen390 which is also a CDMA-based system for
21 information on these allowable frequencies and Gilhousen390
22 tells us that CDMA wireless communication systems are
23 typically in the 850 megahertz frequency band and tells us that at

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1 column 11 starting at line 68. This frequency band and the
2 combination of that frequency band with Gilhousen865's system
3 discloses this transmitter adapted to transmit within the
4 frequency band. Now, Your Honors, that's the only issue that is
5 in dispute for the Gilhousen865 and Gilhousen390 combination
6 as it specifically applies to claim 22.

7 Moving forward to slide 99, Your Honors, we see the next
8 issue that's in dispute as it pertains to the 904 patent and this has
9 to do with whether the Vercauteren reference discloses a mobile
10 unit and again, this is rooted in Carucel's narrow construction
11 that they have set forth in its Patent Owner response and we can
12 see on slide 100, Your Honors, that Carucel's argument boils
13 down to two issues. Carucel has alleged that the Vercauteren
14 reference does not teach the claimed mobile units because it
15 alleges that Vercauteren's mobile terminals do not communicate
16 with a moving base station. It also, its second point alleges that
17 Vercauteren does not disclose this limitation because its mobile
18 terminals cannot register with a cellular network.

19 If we move forward to slide 101, Your Honors, we see that
20 both of these points are simply untrue and instead Vercauteren
21 discloses the mobile device even under Carucel's proposed
22 narrow construction, and so on the left hand side of slide 101 we
23 see that Vercauteren specifically discloses what it calls a

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1 roaming relay station and discloses multiple roaming relay
2 stations being implemented on a moving train along a railroad
3 track. The purpose of these moving roaming relay stations is
4 exactly the same as the 904 patent, is to operate as an
5 intermediary device to facilitate communications between mobile
6 terminals and fixed base stations and so, Your Honor,
7 Vercauteren clearly discloses that its mobile terminals are
8 designed to communicate with roaming relay stations which are
9 the claimed apparatus or moving base station. We see on the
10 right hand side of slide 101, Your Honor, we see that
11 Vercauteren also discloses that its system is designed in the
12 backdrop of known digital cellular GSM
13 networks and it specifically tells us at column 15 starting at line
14 31, specifically tells us that a first class of environments for its
15 mobile terminals which it calls TMT, it just tells us that that
16 includes particularly the conventional handheld cellular
17 applications which are already supported by the known GSM
18 network.

19 We also see that Vercauteren very clearly discloses in
20 column 7 starting at line 55 that its mobile terminals can be
21 coupled to its fixed base stations either directly or indirectly.
22 So, Your Honor, Vercauteren clearly discloses the ability for a
23 direct communication between its mobile terminals and the fixed

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1 base stations and also discloses its mobile terminals in the
2 context of typical conventional handheld cellular applications,
3 and again as we discussed in the context of the 023 patent known
4 cellular applications would include the ability to register as was
5 known at the time in cellular systems, and again, this is
6 supported by Petitioner's expert declarations and is also
7 supported by secondary considerations including, excuse me,
8 secondary evidence including Exhibit 1043, which is also cited
9 in Petitioner's expert declarations.

10 Now, Your Honor, we can move on to slide 102, and on
11 slide 102 we see the next issue that is in dispute for the 904
12 patent, and this is whether the combination of Vercauteren and
13 Forssen discloses the claimed receiver adapted to receive a
14 plurality of signals transmitting from each of a plurality of fixed
15 radio ports. Now importantly, Carucel and Carucel's expert does
16 not dispute whether Forssen's receiver has the ability to receive a
17 plurality of signals. Instead the only issue that is in dispute is
18 where those received signals originate from, and Carucel
19 disputes the origin of these original signals by solely looking at
20 the Forssen reference and failing to consider what the system
21 would look like when Forssen's system is incorporated within
22 Vercauteren, and as clearly explained in Patent Owner's expert
23 declarations as shown on slide 102, when Forssen's receiver and

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1 receive antennas are implemented within Vercauteren's system,
2 those multiple received signals would naturally be received from
3 multiple fixed radio ports, especially when the roaming relay
4 stations move along a railroad track and move in and out of
5 different cell sites. So, Your Honor, the combination of
6 Vercauteren and Forssen discloses those features.

7 On slide 103, Your Honors, we see the next issue that's in
8 dispute for the 904 patent, and this issue is whether Vercauteren
9 and Forssen disclose a processor adapted to evaluate the quality
10 of each of the plurality of signals transmitted from the plurality
11 of fixed radio ports. Now importantly, Your Honors, again there
12 is no dispute that Forssen discloses such a processor. Instead
13 the only issue that is in dispute is whether a person of ordinary
14 skill in the art would have been motivated to implement this
15 processor within Vercauteren's system, and if they did so where
16 that processor would be implemented at, and we see there are
17 two portions of Vercauteren that give us guidance on these
18 points.

19 The first comes from Vercauteren in column 4 starting at
20 around line 66. Vercauteren tells us that in some embodiments it
21 is desired to offload processing hand-over signal processing
22 capabilities from fixed base stations to elsewhere in the network,
23 and then it separately tells us in column 16 at line 65 that in

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1 some situations Vercauteren's roaming relay stations or its
2 moving base stations can behave towards the fixed level as, and
3 operate as a mobile terminal itself. So, Your Honors, we see two
4 portions of Vercauteren that tell us offload this functionality
5 from the fixed base stations, and in one instance at least, it's
6 advantageous to put it in the roaming relay station, and so for
7 those reasons, Your Honors, the combination of Forssen and
8 Vercauteren would have shown to a person of ordinary skill in
9 the art it would have been obvious to pull Forssen's processor
10 and put it in the roaming relay station of Vercauteren as
11 explained in Petitioner's papers.

12 JUDGE GALLIGAN: Counsel, this is Judge Galligan. I
13 had a question on that. What about Vercauteren's disclosure in
14 column 17 at line -- the top of column 17 and ending at line 5 to
15 6 where it says that you can provide a, you know, central
16 supervision without having to provide mobile intelligence in the
17 roaming relay station itself, and wouldn't that advise a person of
18 ordinary skill in the art not to put this signal evaluation into the
19 roaming relay station? How would you respond to that?

20 MR. RICHARDSON: Yes, Your Honor. So that particular
21 portion that Vercauteren is talking about a specific
22 implementation in a specific embodiment of Vercauteren, and
23 what it says here, as Your Honor pointed out, that this

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1 functionality can be supervised centrally at a single fixed base
2 station without having mobile intelligence. That is definitely
3 one option that's contemplated and set forth in Vercauteren.
4 However, there's no disclosure in Vercauteren that says it has to
5 reside solely at a single fixed base station and instead, as we
6 showed on slide 102, Your Honors, is that there is express
7 disclosure elsewhere in Vercauteren that says that it's optimal in
8 at least some embodiments to offload that capability to elsewhere
9 and so it contemplates both, and because it does contemplate one
10 embodiment where the roaming relay station does not need to
11 have mobile intelligence, does not mean that it eliminates or
12 would teach away from allowing somebody to implement it there.

13 JUDGE GALLIGAN: Okay, thank you.

14 MR. RICHARDSON: Okay. And just one more follow-up
15 to that point is that Petitioner's experts in its declarations have
16 also set forth specific reasoning why somebody would put it
17 there, and when you have a situation with fast moving roaming
18 relay stations on a train where the characteristics of the channels
19 between the mobile terminals and the fixed base stations are
20 changing rapidly, it makes sense and it's advantageous to put an
21 intermediary device as opposed to one at the ends of the
22 communication (indiscernible), and again that's laid out in
23 Petitioner's expert declaration, specifically Dr. Ding's

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1 declaration Exhibit 1030 and around paragraphs 62 through 63.

2 JUDGE GIANNETTI: Counsel, you have about four
3 minutes before you're into your rebuttal time.

4 MR. RICHARDSON: Great. Thank you, Your Honor. I
5 believe I only have maybe one or two more points that I'll
6 address on direct. And so, Your Honors, moving to slide 105,
7 and on slide 105 this time we're turning back to the Gilhousen
8 combination of grounds, and so there's a dispute as to whether
9 Gilhousen865 discloses -- whether it discloses its airborne base
10 station simultaneously handing off the plurality of mobile units
11 to a second fixed port of the plurality of fixed ports.

12 Now on slide 105 we see Carucel's argument is not that a
13 handoff takes place. Their argument is rooted in what device
14 performs that handoff, and Carucel alleges that this handoff
15 function is performed by the radio telephone instead of by
16 Gilhousen's moving base station. However, Your Honors, if we
17 look and we see on the right hand portion of slide 105 it
18 discloses that the radio, or excuse me, the airborne base station
19 which is the moving base station performs registration
20 processing. It searches for the strongest pilot signal of the
21 ground base stations and registers with the correct base station.
22 Importantly, Your Honor, this is the exact same discussion that
23 is disclosed in column 3 of Gilhousen when it talks about how

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1 the radio telephones can perform a handover procedure. So
2 Gilhousen is disclosing that this registration process is at least at
3 minimum a portion of the handover process, and indeed as
4 detailed in Petitioner's expert declaration, Petitioner's expert
5 explains that when it's determined that a handoff should be
6 initiated the airborne base station begins by registering the
7 telephones with the new base station as part of the handoff
8 process.

9 This is in Dr. Ding's reply declaration at paragraph 45. It's
10 improper to remove these two functions from one another.
11 Instead, they're both a part of the same ultimate process and
12 Gilhousen tells us that it can happen at least in some instances be
13 performed by its airborne base station and in fact, Your Honors,
14 Gilhousen discloses and specifically at column 3, line 51 that
15 using the entire idea, the entire point of its airborne base station
16 is to enable calls from a radio telephone to be handed off to the
17 next cell as it reaches the edge of the cell coverage. That's what
18 Gilhousen tells us, that's what a person of ordinary skill in the
19 art would understand and that's what they would have interpreted
20 from reading its disclosure, and with that, Your Honor, I see that
21 I'm about at my time and so I will save the additional portion of
22 my time for rebuttal.

23 JUDGE GIANNETTI: Okay. Thank you, counsel. I've got

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1 you at about 44 plus minutes, that's about 45 minutes for your
2 side on rebuttal which I think is about where you expected to be.
3 All right. I think this is an appropriate time to take a break.
4 Let's try to be back in ten minutes. It is 1:45 now, let's try to be
5 back by 1:55 and I just want to remind you to keep -- to stay on
6 line, don't shut down WebEx so that we'll be able to get up and
7 running promptly at 1:55. Okay. We are in recess. Thank you.

8 MR. RICHARDSON: Thank you.

9 (Recess, from 1:45 p.m. to 1:59 p.m.)

10 JUDGE GIANNETTI: All right. So let's continue. This is
11 Patent Owner's argument. Mr. Rhoades, do you want to reserve
12 surrebuttal time?

13 MR. RHOADES: Yes, Your Honor. We would like to
14 reserve 45 minutes.

15 JUDGE GIANNETTI: How much? Thirty?

16 MR. RHOADES: Forty-five.

17 JUDGE GIANNETTI: Forty-five.

18 MR. RHOADES: Forty five.

19 JUDGE GIANNETTI: Yes, I'm not getting such great audio
20 from you but let's start and see how it goes, but you're breaking
21 up a little bit. Okay, so 45 minutes so you'll have two hours less
22 45 minutes, an hour and 15, and I'll try to give you a warning
23 when you get into your rebuttal time. But you can proceed when

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1 you're ready, Mr. Rhoades.

2 MR. RHOADES: Thank you, Your Honor. Once again this
3 is Scott Rhoades speaking, for the court reporter. May it please
4 the Board. As provided in Patent Owner's briefs and as will be
5 discussed today, the Petitioners have failed to establish
6 invalidity of any of the challenged claims. Petitioner's grounds
7 of invalidity rely on various combinations of incompatible prior
8 art references in an attempt to piece together the features of the
9 invention using impermissible hindsight as well as providing
10 insufficient motivation to combine these very prior art
11 references. Your Honor, can you hear me?

12 JUDGE GIANNETTI: Yes, I can. Just not -- it's
13 acceptable audio. Let's see how it goes.

14 MR. RHOADES: Fair enough. If you don't hear
15 something, just please let me know.

16 JUDGE GIANNETTI: I will do that.

17 MR. RHOADES: The priority date of all the challenged
18 patents is June, 1995. Patent Owner notes that at this time
19 CDMA cellular networks were relatively new. There were no
20 cellular networks deployed on an aircraft. No moving equipment
21 on a roadway provided a connection between a mobile cellular
22 device and a cellular network. In addition, mobile devices
23 communicated with a cellular network in multiple intents

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1 (phonetic). To this day, no commercial cellular network has
2 been developed that's a combination of CDMA and TDMA. The
3 industry ignores (phonetic) the incompatibility of these diverse
4 systems for the development of the LTE standard. Nothing in the
5 prior art discloses the invention of the Carucel patents where it's
6 specifically dropping a moveable base station between the
7 standard cellular network and mobile device.

8 The Carucel patents concern inventions by the family
9 patriarch, Charles Gavrilovich, Sr., who passed away in July of
10 2015 after founding Carucel in 1999. Carucel is a small family-
11 owned limited partnership. Mr. Gavrilovich earned a Master's
12 Degree in electrical engineering and had 39 years of experience
13 in the field of telecommunications working for leading
14 companies including Bell Labs, Lucent Technology and
15 Motorola. The Carucel patents were the culmination of Mr.
16 Gavrilovich's life's work when he invented a moveable base
17 station that significantly improved wireless communications by
18 acting as an intermediary between cell towers and mobile
19 devices.

20 If you'll please now turn to slide 5 of Patent Owner's
21 demonstratives. The moveable base station/apparatus as is
22 shown in figure 4 of the Carucel patents includes an antenna 100
23 communicating with mobile devices and second antenna 101

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1 communicating with fixed base stations cell towers. We'd like to
2 note Unified stated that these were all well known devices and
3 well known techniques. What Unified failed to identify is that
4 these known techniques were for stationary devices. They did
5 not work with a moveable base station which is the invention of
6 the Carucel patents. The moveable base station or apparatus
7 provides a communication path between the mobile devices and
8 the cellular network that increases the available data bandwidth
9 and quality of wireless service which in turn provides important
10 tangible benefits to consumers by enabling fewer dropped calls
11 and higher data throughput.

12 JUDGE GIANNETTI: Counsel, let me interrupt you there.
13 I thought the point of this patent was to reduce the handoffs that
14 are necessary when a mobile device is travelling at a high rate of
15 speed and travelling through a number of cells. Isn't that the
16 point of this invention?

17 MR. RHOADES: I believe there are multiple points and
18 benefits of that. I do note that we do discuss that a little later in
19 the presentation. That certainly is one of the benefits but also
20 some of the additional benefits are the ones I've stated
21 previously.

22 JUDGE GIANNETTI: Okay, thank you.

23 MR. RHOADES: The cordless telephone. The cordless

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1 telephone is basically a combination telephone and radio
2 transmitter receiver having two major parts; a base and a
3 handset. A cordless telephone is described as a standard wire
4 telephone that has only replaced the handset cord with a radio
5 link. The base is typically attached to a phone jack through a
6 standard phone wire connection and as far as the phone system is
7 concerned it looks like a normal phone. The base receives an
8 incoming call (as an electrical signal) through the phone line and
9 converts it to an FM radio signal and then broadcasts that signal.
10 Common characteristics of cordless phones are the base is
11 connected to a fixed telephone line. The curled cord between the
12 telephone and the handset is then replaced by the radio links.
13 The handset only includes basic telephone key pad and the
14 cordless handset is not capable of communicating with the
15 cellular network. At no point does the handset of the cordless
16 phone register with a cellular network, communicate directly
17 with a cellular network or move freely between moveable base
18 stations.

19 Next, I'd like to move to claim construction. Patent Owner
20 states that there are three terms in the (indiscernible.) The first
21 "configured to"/"adapted to." The second mobile device or
22 mobile unit, and the third automotive vehicle. I know the Court
23 stated --

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1 JUDGE KORNICZKY: Counsel, this is Judge Korniczky.
2 What slide are you on or are you on a slide?

3 MR. RHOADES: I haven't been to a slide. I'm getting
4 prepared to move to slide 12.

5 JUDGE KORNICZKY: All right, thank you.

6 MR. RHOADES: The Court stated earlier that it's very
7 familiar with the case law, but I wanted to raise at least one
8 construction, claim construction case law because I feel that this
9 is the case law that has been ignored by the Petitioners and
10 specifically the claim terms are interpreted from the point of
11 view of the POSITA who is deemed to read the claim terms not
12 only in context of the particular claim in which a disputed term
13 appears, but in the context of the entire patent including the
14 specification.

15 If you would please turn to slide 12 which is "configured
16 to" and "adapted to." We won't spend much time on this but
17 there is some crucial information that we would like to disclose
18 to the Board. Patent Owner submits that the proper claim
19 construction for the term "configured to" or "adapted to" is the
20 same construction applied by a civil court in a prior litigation,
21 specifically --

22 JUDGE GIANNETTI: Counsel, what do you mean by civil
23 court? Do you mean the district court?

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1 MR. RHOADES: Yes.

2 JUDGE GIANNETTI: Why do you refer to it as the civil
3 court? It's the district court, isn't it?

4 MR. RHOADES: I (indiscernible.)

5 JUDGE GIANNETTI: I don't understand. I've never heard
6 a District Court referred to as a civil court before. I saw that
7 throughout your papers and frankly it puzzled me that you would
8 refer to the United States District Court as the civil court. It's
9 the United States District Court.

10 MR. RHOADES: It was the --

11 JUDGE GIANNETTI: Why don't you call it District Court?

12 MR. RHOADES: -- distinction I was trying to make.

13 JUDGE GIANNETTI: That's good. But call it the District
14 Court, that's what its name is.

15 MR. RHOADES: It's the same construction applied by a
16 District Court in a prior litigation, specifically an apparatus
17 constructed to move with the traffic at a rate of speed which is
18 comparable to the speed of traffic. This is slide 13. The Civil
19 Court determined, and the Federal Circuit agreed that the
20 inventor had limited the scope of the invention to an apparatus
21 constructed to move with traffic at a rate of speed which is
22 comparable to the speed of traffic. Specifically the Court stated,
23 the District Court stated,

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1 "But here, the specification is describing a system as a
2 whole according to the invention and not simply a preferred
3 embodiment."

4 The District Court in its order in essence --

5 JUDGE GIANNETTI: You don't -- counsel, this is Judge
6 Giannetti again -- you don't dispute this construction?

7 MR. RHOADES: No, sir, we do not.

8 JUDGE GIANNETTI: Do you agree that --

9 MR. RHOADES: (Indiscernible.)

10 JUDGE GIANNETTI: -- do you agree that this case does
11 not -- the outcome of this case doesn't depend on this
12 construction?

13 MR. RHOADES: I believe that this construction is
14 necessary for some of the prior art which is -- the prior art
15 elements described are not designed to move traffic at a rate of
16 speed which is relative to the speed of traffic and so I think that
17 term is necessary to be construed and applied to the claims.

18 JUDGE GIANNETTI: Okay. So you don't agree with what
19 I understood to be Petitioner's position that this doesn't need to
20 be construed because it's not material to the case?

21 MR. RHOADES: We definitely disagree with Petitioner on
22 that. You know, one of the examples is aircraft, aircraft does not
23 move the traffic at a rate of speed which is comparable to the

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1 speed of traffic and I believe that is set forth in our briefing and
2 will be discussed later by either Mr. Smith or --

3 JUDGE GIANNETTI: What does the term "comparable to"
4 mean? Does it have to be equal to? I don't quite understand
5 what that means.

6 MR. RHOADES: What comparable means is does not have
7 to be equal to.

8 JUDGE GIANNETTI: Has to be equal to?

9 MR. RHOADES: No, it does not have to be equal to.

10 JUDGE GIANETTI: Can it be equal to?

11 MR. RHOADES: I would say yes.

12 JUDGE GIANNETTI: So you could have the mobile unit or
13 the mobile device travelling at a same rate of speed as the mobile
14 base station; is that your construction?

15 MR. RHOADES: For example, you could have -- I
16 apologize.

17 JUDGE GIANNETTI: Go ahead. You were going to give
18 me an example and I'm happy to hear it.

19 MR. RHOADES: You could have a mobile unit in one
20 vehicle and the mobile base station in another vehicle, cars
21 driving down the highway with the infotainment system that
22 Petitioner described and they could -- the mobile unit in the
23 other vehicle could be connected to the moveable base station in

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1 the other car. I don't think it's feasible to say that they're exactly
2 the same speed at every moment. They could be moving back
3 and forth and getting closer and farther apart, and their speeds in
4 our estimation would be comparable.

5 JUDGE GIANNETTI: But how does that address the
6 handoff problem we were just talking about?

7 MR. RHOADES: Well that, as the vehicle would move
8 from one cell to another the handoff would be handled through
9 the moveable base station which is in communication with the
10 mobile device in that vehicle and in the vehicle next to it.

11 JUDGE GIANNETTI: Well how does that solve the
12 problem though? I thought the problem was that there was
13 overhead involved in transferring from one cell to another
14 because the cell sizes were small. A vehicle travelling at 60 to
15 90 miles an hour would be travelling through a number of cells
16 and would incur overhead. So how does this solve that problem
17 when they're travelling at the same rate of speed or when they're
18 in the same vehicle?

19 MR. RHOADES: It removes the functionality from the
20 phone to the moveable base station. The moveable base station,
21 which could be a larger element, a larger piece of equipment in
22 the vehicle, can handle the handoff. It's like the phone itself
23 would not see the handoff because it's communicating with the

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1 moveable base station which is communicating with the cell
2 networks so that's (indiscernible) --

3 JUDGE GIANNETTI: So there would -- so there would be
4 no handoff at all between the mobile base station and the mobile
5 device?

6 MR. RHOADES: Yes. The mobile device would be in
7 contact with the mobile base station as it moves from cell to cell.
8 The moveable base station would worry about the handoffs from
9 one cell to the next.

10 JUDGE GIANNETTI: But how does that solve the problem
11 then? You still have handoffs that have to be dealt with and
12 they're going to be dealt with. Instead you just transferred the
13 problem from the handheld device to the base station, haven't
14 you? You used the same handoff (indiscernible.)

15 MR. RHOADES: And we can keep in mind that this is a
16 1995 technology. The technology necessary to do the handoffs
17 from the mobile unit each time to the cellular could be an
18 extensive (indiscernible) moveable base station for the mobile
19 unit doesn't have to have that extensive circuitry functionality to
20 go from (indiscernible) if you're travelling (indiscernible) rate of
21 speed.

22 JUDGE GIANNETTI: All right. I'm having trouble
23 hearing you. I'm afraid the connection isn't good. You'll have to

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1 repeat that sentence and maybe we can get it right, otherwise I
2 think we're going to have to have a technical fix here. Could you
3 just repeat that sentence for us? I was not able to hear it.

4 MR. RHOADES: We need to keep in mind that this is 1995
5 technology and mobile units at the time didn't have quite the
6 functionality as they do today. The physical limitations and
7 circuitry and functionality was being moved from the mobile unit
8 to the moveable base station so, which could have a larger
9 footprint and have more equipment and allow the handoffs to
10 occur from the mobile base station instead of the mobile units.

11 Additionally, the mobile base station can handle multiple
12 mobile devices and each, when that happens the moveable base
13 station is only handling the handoff from one cell to another and
14 instead of making all three or four of the mobile devices worry
15 about handoff from one cell network to another.

16 JUDGE GIANNETTI: All right. So you're not actually
17 reducing the number of handoffs in your explanation; is that
18 right?

19 MR. RHOADES: There will be one handoff from every cell
20 network to another cell network with the invention. I guess if
21 you had multiple phones without the invention each phone would
22 have to have a handoff so they'll accumulate their multiple
23 handoffs going on without the moveable base station but with the

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1 moveable station there is just the one handoff between one cell
2 network and the next.

3 JUDGE GIANNETTI: Is there any disclosure in this
4 patent, I'm talking about the 023, or any of these patents of a
5 situation where the mobile device and the mobile base station are
6 not moving independently?

7 MR. RHOADES: I would have to look. I believe that there
8 is, you know, examples exist where it talks -- let me actually
9 have someone else try to find that --

10 JUDGE GIANNETTI: Yes, why don't you do that. You can
11 get back to me on that. Thanks.

12 JUDGE GALLIGAN: Counsel, this is Judge Galligan.
13 Following up on Judge Giannetti's questions, in the District
14 Court's claim construction the Court said that the "adapted to"
15 and "configured to" means constructed to move with the traffic at
16 a rate of speed comparable to the traffic and I was curious. I
17 thought the device itself was just put into a means of
18 conveyance, so is the device itself constructed? Is there some
19 mobility or automotive capability of the device or is this just
20 constructed to move meaning you put it into a device that moves
21 with traffic?

22 MR. RHOADES: I believe that you put into a device that
23 moves with traffic.

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1 JUDGE GALLIGAN: Okay, thanks. And then later on --

2 MR. RHOADES: (Indiscernible.)

3 JUDGE GALLIGAN: Sorry. I was going to say later on it
4 looks like you added into your construction something about how
5 it has to be automotive traffic and in your arguments, and I
6 wanted you to discuss that, but I believe you did that in your
7 discussion of the prior art itself. I thought I saw that, that it's a
8 further requirement and I believe that was at page 44 of at least
9 the 1101 brief, Patent Owner's response. Thank you.

10 MR. RHOADES: Okay. I believe that was (indiscernible.)
11 I'm not sure that we limited the -- claim construction for
12 "adapted to"/"configured to" to be in an automobile.

13 JUDGE GALLIGAN: Well let me, okay. This is Judge
14 Galligan. So on page 44 of the Patent Owner's response -- and
15 this is in the 1101 case if you can go to that -- it says the District
16 Court's construction was referring to an automotive vehicle
17 travelling on a roadway, not airplane traffic, and this was a
18 distinction over the Gilhousen combination and I was wondering
19 what, if you could speak to that and what -- where the District
20 Court indicated that and, if we need to build that into a
21 construction, where it's supported. Thank you.

22 MR. RHOADES: Okay.

23 JUDGE GALLIGAN: It says the traffic in the construction,

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1 but there's nothing in the claim about traffic and so the traffic
2 appears to be the issue.

3 MR. RHOADES: Okay. Yes, I think they're just referring
4 to the construction, it says it moves traffic at a rate of speed
5 which is comparable to the speed of traffic. I think one of the
6 key elements to keep in mind is this invention is to set a
7 moveable base station between a cellular network and a mobile
8 unit. Cellular networks in 1995 did not exist on aircraft so, and
9 mobile units travelled at such great speeds on aircraft that they
10 could not handle the handoffs from one cellular network to
11 another and I know that's covered in much more detail on Mr.
12 Smith's, later in our presentation that I believe that's the
13 fundamental principle behind your statement.

14 JUDGE GALLIGAN: Yes, thank you and if Mr. Smith will
15 address it, that's fine. We'll get to it later. I would note that the
16 -- I was curious about your comment, and maybe Mr. Smith will
17 address it. You say that cellular phone systems didn't exist on
18 airplanes. Is this -- I mean there's no dispute that Gilhousen865
19 is prior art under 102 (a) or (b), right?

20 MR. RHOADES: What I said is cellular networks did not
21 exist. The phone systems on aircraft Gilhousen865 were decade
22 (phonetic) phones to a specific repeater I believe on the plane.
23 You cannot take the handset from one aircraft Gilhousen865 and

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1 put it on another and have it work or you cannot take the handset
2 off the plane and have it work when you're out and about on the
3 ground. So if it wasn't a cellular network as the term we're using
4 it which is mobile device is (indiscernible) area, it was a specific
5 closed system that directly had those handsets were tied to that
6 repeater on that aircraft, and that aircraft -- and that repeater is
7 what communicated with the cellular networks, not the actual
8 handsets or phones.

9 JUDGE GALLIGAN: Okay, great. Thank you.

10 MR. RHOADES: One thing I do want to note in getting
11 back is the Civil Court in its order in the sentence or two prior to
12 the slide which -- and make sure I can get it back here, 13 --
13 states it refers to a sentence that (indiscernible) obtain this
14 language, specifically in column 3, lines 21 and 25 of the 904
15 patent the District Court referred to the sentence that states,

16 "In accordance with this invention the moveable base
17 station moves the traffic at a rate of speed which is comparable
18 to the speed of the traffic and communicates with a moving
19 mobile telephone unit via a standard mobile radio transmission."

20 This is the statement that the District Court referenced in
21 its claim construction order which preceded their statement that
22 the specification is describing the system as a whole according to
23 the invention and not simply a preferred embodiment. Patent

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1 Owner submits that the inventor identified that a mobile
2 moveable base station 1) moves this traffic at the speed of traffic
3 and 2) communicates with a mobile device via standard mobile
4 radio transmission. This is what the District Court determined in
5 its analysis. Patent Owner submits that the proper claim
6 construction for "configured to" or "adapted to" is an apparatus
7 constructed to move the traffic at a rate of speed which is
8 comparable to the speed of traffic.

9 If you would please go to slide 22, next we'll deal with
10 mobile device, mobile unit. The description of the mobile device
11 in the specification of the Carucel patents is dispositive. A
12 mobile device must be able to directly communicate with a
13 cellular network -- must be able to communicate with a cellular
14 network indirectly by communicating with a moveable base
15 station, must be able to register with the cellular network and
16 must be able to move freely between moveable base stations.

17 The second and fourth elements we have here, the must be
18 able to communicate with a cellular network indirectly by
19 communicating with a moving base station and must be able to
20 move freely between mobile base stations we believe are not
21 necessary in a construction of the term because those
22 functionality is covered by the language in the claims for other
23 elements. The fact that it communicates with the moveable base

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1 station is handled with, like in claim 11 -- let me find that real
2 quick which slide that is -- it's claim 11 of the 023 patent
3 provides that a receiver is configured to receive fixed port
4 signals from a fixed port and that a transmitter configured to
5 transmit radio frequency signals to a mobile device. So we have
6 this entered for the unit we're describing or slide 22, that must be
7 able to communicate with the moving base station and must be
8 able to move freely between mobile base stations but those terms
9 are not necessary in the construction of the term because they're
10 handled by other claim elements.

11 Patent Owner submits that the plain and ordinary meaning
12 is a device that must register with and be able to directly
13 communicate with the cellular network. This is a fundamental
14 aspect of the invention. As we'll see as we're going to go
15 through the invention is splitting (phonetic) a moveable base
16 station between a mobile unit and the cellular network. The
17 moveable base station has no use if the mobile unit cannot
18 communicate with the cellular network. That's its purpose. It
19 sits in between the two to enhance the communication that is
20 going on between the mobile device and the cellular network.

21 JUDGE GALLIGAN: Counsel, this is Judge Galligan. I
22 have a question to follow up on that. So the, I think I heard you
23 say that they must be able to register is not -- you're not building

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1 that in anymore to the construction because that's handled by
2 other language of the claim; is that right? Or but then I just
3 heard you say it must register.

4 MR. RHOADES: No.

5 JUDGE GALLIGAN: Okay.

6 MR. RHOADES: No. What I said is that the
7 communication, talking about the communication of the mobile
8 device with the moving base station and the ability to move
9 between moving base stations, those two are discussed in other
10 claim terms in the claims (indiscernible) communicated to a
11 cellular network and --

12 JUDGE GALLIGAN: Sorry counsel, I apologize for cutting
13 you off. I believe we may have lost one of the panelists and I
14 apologize for that. We're going to check on that.

15 (Pause, due to technical difficulties.)

16 JUDGE GIANNETTI: Okay. I was offline for a minute, I
17 apologize. Go ahead. You can go ahead and continue, I'm back
18 online now.

19 MR. RHOADES: All right. The Carucel patents relate and
20 describe as a whole improving the wireless connections of
21 mobile devices with cellular telephone systems via a moveable
22 base station. As I was stating, the mobile device has to be able
23 to communicate with the cellular telephone system to allow the

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1 improvement of a moveable base station. If the mobile device
2 cannot communicate with the cellular telephone system the
3 moveable base station isn't going to improve that
4 communication. One thing I wanted to point out is we've gone
5 through and talked about the --

6 JUDGE KORNICZKY: Counsel, counsel. This is Judge
7 Korniczky. So if the mobile device can communicate with the
8 cellular network, why does it have to register with the cellular
9 network?

10 MR. RHOADES: Otherwise the cellular network will not
11 know the mobile device is within that cell. For example, if your
12 cellular phone is not registered with each cell when it moves into
13 the cell, then someone trying to call your number the cell that
14 you're in won't know that your phone is in that cell and won't be
15 able to direct the call to you. So it's more of just a I'm here, I'm
16 in this area so if there's a call coming up with this number I'm in
17 this cell now, and that's why that handoff is important if you
18 move from one cell network to another.

19 JUDGE KORNICZKY: But can a mobile device
20 communicate with the cellular network if it doesn't also
21 inherently register with the cellular network?

22 MR. RHOADES: I don't, I'm not sure that it's not going to
23 be -- the cellular network will not know what your mobile device

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1 is. I'm assuming it will just be like a random signal because
2 without any knowledge because especially with cell phones and
3 so forth and billing they have to know which phone is actually
4 calling in which cellular network. Again, this is 1995 where,
5 unlike we have unlimited calling and unlimited moving around,
6 in 1995 the mobile units when it communicated with the cell
7 network had to know specifically which device it was to keep
8 that information necessary for billing and other issues.

9 JUDGE GALLIGAN: And counsel, just to follow up on
10 that. This is Judge Galligan. When your proposed construction,
11 or when the Patent Owner's proposed constructions says a device
12 that must register with, that sounds to me a lot like a method step
13 and is it more accurate to say, and in your slides you maybe
14 allude to this, that it's a capability to do this because if we build
15 in a method step kind of it seems like an indefiniteness issue
16 because we have apparatus claims and putting aside whether
17 there's a mobile device that is inferentially claimed or directly
18 claimed that we have to build in a method step. So are you
19 talking about the capability to do this, not the actual
20 registration?

21 MR. RHOADES: Yes, I believe that would be correct. It
22 must have the ability to register with.

23 JUDGE GALLIGAN: Okay. And then there was some

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1 reference made to -- both you and your opposing counsel
2 referenced this infotainment system and I don't know whether or
3 not, whatever is accused I don't necessarily care. I am curious
4 about the Patent Owner's view of the scope of the claims and so a
5 Wi-Fi signal clearly wouldn't meet this then because, you know,
6 if for instance a laptop sounds like it can't be a mobile device
7 according to your construction that it uses Wi-Fi.

8 MR. RHOADES: There are laptops that have their own
9 phone number and can communicate directly with cellular
10 networks. There are iPads that you certainly can have that
11 functionality in your iPad. I had an iPad which had a separate
12 phone number and you could receive calls and you could do
13 everything else. Again, those are registered with the cellular
14 network. There are laptops that do that. There are some laptops
15 that communicate with the moveable base station through Wi-Fi
16 and that wouldn't directly communicate, yet.

17 JUDGE GALLIGAN: And that wouldn't -- so providing
18 Wi-Fi to your laptop the mobile device then wouldn't be a laptop
19 with just Wi-Fi I guess?

20 MR. RHOADES: I'm sorry, I'm not sure I understand your
21 question.

22 JUDGE GALLIGAN: I was just saying a mobile -- a laptop
23 with just Wi-Fi then would not meet your construction of a

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1 mobile device?

2 MR. RHOADES: Based on the construction we're
3 proposing as set forth in the Carucel patents, yes that would be
4 correct.

5 JUDGE GALLIGAN: Can you also comment on, in the file
6 history of the 904 patent at least, the Patent Owner -- the
7 Applicant took the position that this could be basically any type
8 of radio, and I'm looking at, in particular it was in an appeal
9 brief that was filed and I don't believe the patent BPAI at that
10 point or whatever it was ever took this up because the examiner
11 re-opened prosecution, but the Applicant characterized the
12 invention as directed to moving, you know, providing services to
13 moving mobile units such as telephones, radio modems and other
14 types of radios. So it seems like a fairly expansive definition
15 and, you know, this is Patent Owner's, or the Applicant's own
16 representation to the Office, so why now would we eliminate the
17 other types of radios from that, like a signal, any kind of signal,
18 Wi-Fi signal?

19 MR. RHOADES: Right. And yes, if you look at slide 31 I
20 believe it's the summary of the invention and that's like the
21 summary of the invention that is set forth in an appeal brief for, I
22 believe you're correct, is the 904 patent. However, once again
23 Patent Owner contends that telephones, radio modems and other

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1 types of radios certainly existed that communicated, registered
2 with and communicate with a cellular network. I don't think this
3 is -- I don't believe you could read this section broadly as to
4 rewrite the clear and plain meaning set forth in the specification
5 of what a mobile device is.

6 So our position is that this is consistent based upon mobile
7 unit as defined in the specification. Mobile units that can have
8 the ability to register with and directly communicate can include
9 telephones, radio modems and other types of modems. I believe
10 we stated in our briefing that cellular phones (indiscernible)
11 cellular telephones that include both analog, voice and digital
12 data capability and other types of radios all meet this definition.

13 JUDGE GIANNETTI: So radio telephones would meet this
14 definition?

15 MR. RHOADES: If it has the ability to register with a
16 cellular network and directly communicate with a cellular
17 network.

18 JUDGE GIANNETTI: Well, that's the gloss you're putting
19 on it now, but when you were trying to convince the examiner to
20 allow your case you just said radio telephones.

21 MR. RHOADES: I believe this is just a very high level
22 brief summary of the invention and at no point during the appeal
23 brief was the definition for a mobile unit ever limited or

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1 disclaimed or anything of that nature. This is just kind of a
2 broad statement and I, yes, I'll just leave it at that.

3 JUDGE GIANNETTI: Okay, thank you.

4 MR. RHOADES: I was discussing the sentence and the 904
5 patent column 3, lines 21 through 25, which talks about the
6 invention includes communicates with a moving mobile
7 telephone unit (indiscernible) standard mobile radio
8 transmission. A cordless phone does not communicate with the
9 moveable base station via standard mobile radio transmission is
10 therefore not a part of the invention as a whole as set forth. We
11 seem to be going through a lot of time so I'm going to jump
12 ahead here a little bit.

13 I just want to state that a cordless phone is not a mobile
14 device as used in the Carucel patents. A cordless phone can only
15 communicate with its base station and doesn't have capability to
16 directly communicate with a cellular network. I'm assuming all
17 of you are familiar with cordless phones. If you take it from
18 your house to your office it doesn't work. If someone calls your
19 home the cordless phone doesn't ring. Why? Because it doesn't
20 communicate with the cellular network and it hasn't registered
21 with it. Your base station has no idea where your cordless phone
22 has gone off to because it's only sending out an FM signal in a
23 limited area. That is not the type of device that the invention

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1 works with. The invention is specifically intended to sit between
2 the cellular network and mobile devices.

3 If we can go to slide 23. The Federal Circuit precedent
4 forbids an overly broad,

5 "A patentee describes the features of the present invention
6 as a whole, he alerts the reader that the description limits the
7 scope of the invention."

8 Move to slide 24, please. The purpose of the invention --

9 JUDGE KORNICZKY: In the very -- counsel, this is
10 Judge Korniczky.

11 MR. RHOADES: Yes.

12 JUDGE KORNICZKY: Yes. I asked this question to your
13 colleagues on the other side. Are you using the term mobile
14 device and mobile unit interchangeably?

15 MR. RHOADES: We are.

16 JUDGE KORNICZKY: All right. Thank you.

17 MR. RHOADES: Slide 24 which is talking about the
18 invention relates to cellular telephone systems and more
19 particularly to cellular telephone systems adapted for use with
20 fast moving mobile units and this is the purpose behind the
21 invention. The invention is not communication with cordless
22 phones.

23 I did want to bring up one issue that was addressed by both

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1 Petitioner's counsel. Unified, for the first time, set forth what
2 they provided a construction for a mobile device and that's a
3 device that is mobile. That is such a broad understanding that
4 would bring in I believe, as you all have noted, you know, a car
5 seat that communicates or set forth. Additionally, Petitioner for
6 VW wants to use the term mobile device in the definition of
7 mobile device which provides absolutely no clarity to what the
8 mobile device is.

9 JUDGE GALLIGAN: Counsel, this is Judge Galligan. I
10 wanted to follow upon the prosecution history and perhaps you
11 can address this in your surrebuttal and maybe take some time to
12 look it up. But I'm looking at the (indiscernible.) I understand
13 your point that this is a summary of the invention and or such,
14 you know, it's the invention and that's what you're telling us to --
15 how to construe the claim and it corresponds to the invention,
16 but the entire argument over some of these references about
17 whether movement is independent between the mobile unit and
18 the portable phone. The references showed a portable phone and
19 one of them was in an elevator, so I would have expected the
20 argument to be that a portable phone isn't a mobile device and it
21 seems like the argument was there's no independent motion but it
22 seems like a portable phone was -- there was no dispute that it
23 was within the scope of the claim or at least within the scope of

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1 a mobile device, whether or not that's claimed or not. Perhaps
2 you can make a note of that and just take a look at that and let
3 me know if there's some other distinction in there because I still
4 do find the prosecution history somewhat enlightening as to the
5 meaning of the claim. Thank you.

6 MR. RHOADES: Yes, we will look at that and try to
7 address that in our surrebuttal. I think it's important to note in
8 the claim construction section for mobile device, the Petitioners
9 have provided no dictionary definitions. They provided no other
10 contemporaneous documents. They provided no expert testimony
11 and they provided no citations to the specification.

12 Patent Owner however has relied on what is shown in the
13 specification over and over about a mobile device. The Board
14 did not construe mobile device as Petitioner suggests, especially
15 one party has provided substantial evidence that consistently and
16 fully assesses the term and is most accurately consistent with the
17 specification.

18 One moment, real quick I just do want to get and if you go
19 to slide 24. VW argued that the mobile device is not an element
20 of the apparatus, however as we set forth with the invention a --
21 the moveable base station sits between the mobile device and the
22 cellular telephone network. It is necessary for the invention.
23 Carucel patents describe the invention as a whole with a mobile

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1 device within the cellular telephone systems that are now
2 separated and communicating with the moveable base station.

3 JUDGE GALLIGAN: Counsel on that note, and going back
4 to Judge Korniczky's earlier question about why you would need
5 to register with this network if you're getting data through the
6 moveable base station. You've got, I mean if for instance this
7 infotainment system that everyone keeps talking about, if it's
8 providing Wi-Fi it's just shooting Wi-Fi out, why does the
9 apparatus itself care if the device that receives it, like a laptop,
10 has cell coverage? That's what I'm -- I'm trying to relate this
11 back to the claim, relate this Wi-Fi thing back to the claim.

12 MR. RHOADES: It's the invention as a whole -- the
13 moveable base station is to assist, like you stated with handoffs,
14 between the mobile unit and the cellular network. There are
15 certainly other devices that can communicate with the moveable
16 base station. However, the reason that we need to construe this
17 term is Petitioners have tried to expand this definition to cover
18 devices that are not mobile devices as used in the patent. They
19 have tried to expand it to cover cordless phones.

20 This invention is claimed and as set forth in the
21 specification will not work with cordless phone handsets.
22 Cordless phone is tied to its base. It is not tied. It is not
23 moveable to be able to go into one vehicle that has a moveable

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1 base station and another vehicle has a moveable base station and
2 work between those. The mobile unit has to be able to
3 communicate with the network because that's the type of device
4 that you can move from one vehicle to another and track
5 (phonetic) it between one moveable base station and another.

6 We propose that the term to be construed specifically as
7 there is obviously some dispute between the parties what is
8 covered by this term. The, what a mobile device, mobile unit is
9 needs to be set forth by this Board to find the construction so
10 where that can be applied to the prior art references going
11 forward. I am running way over the time that I anticipated so I
12 believe we're going to hand off at this point unless you have any
13 questions for me on this, and I'll address anything else in
14 rebuttal but otherwise I'm going to hand this to Mr. Smith.

15 JUDGE GIANNETTI: Okay. Just for your information you
16 have about an hour and 15 minutes, hour and 16 minutes
17 remaining.

18 MR. SMITH: Can you hear me?

19 JUDGE GIANNETTI: I'm getting a chirping noise in the
20 background, is that -- I think it's gone away.

21 MR. SMITH: Okay.

22 (Pause, due to technical difficulties.)

23 JUDGE GIANNETTI: All right, Mr. Smith.

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1 MR. SMITH: May it please the Board --

2 JUDGE GIANNETTI: Yes, I'm going to start the clock. I
3 stopped it for a minute while we dealt with our technical problem
4 and I'm going to start the clock again. Okay, you may proceed.

5 MR. SMITH: Thank you. My name is Elvin Smith and I
6 also have the pleasure of representing Carucel and I will note
7 that after all the combined searching (phonetic) effort that
8 Petitioners have been relegated to asserting two different
9 cordless phones, two unique but non-standard cellular systems,
10 and a plane system where the plane has to turn its engine off and
11 reach a glide speed below 50 miles an hour. In these prior art
12 references they don't disclose the claim functionality, but what
13 they do do is evidence just how novel Carucel's inventions were
14 at the time they were made.

15 As Mr. Richardson alluded to in his presentation, each of
16 the 33 claims being challenged and the 23 grounds contested in
17 these proceedings depend upon a finding of prior art references
18 which make obvious a moving base station which services and
19 interacts with mobile devices which can register with and
20 directly communicate with a standard cellular network. None of
21 the asserted 23 grounds in these five different petitions
22 accomplish that task. This is not the only reason these petitions
23 should fail but this reason alone is sufficient for all the

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1 challenges to fail in their entirety.

2 In my portion of the presentation I'm going to address the
3 15 grounds asserted against the 023, the 701 and the 543 patents.
4 My colleague, Mr. Warren, will address the eight grounds being
5 asserted against the 904. There are four primary references
6 utilized in the 023, the 701 and the 543. These are the
7 references that are claimed to disclose mobile devices. Those
8 references are Massa, Thrower, Ito and Gilhousen, and Mr.
9 Warren will address Vercauteren, which is the reference added
10 with respect to the 904. Neither Massa, Thrower, Ito, nor
11 Gilhousen⁸⁶⁵ add any functionality to a mobile device which
12 itself registers with and directly communicates with a standard
13 cellular network. Additionally the (indiscernible) moving base
14 stations of Massa, Thrower, Ito and Gilhousen⁸⁶⁵ are incapable
15 of handing off their mobile devices to a separate base station
16 moving or fixed for directing communication. All those pieces
17 of art require on the portable devices going through their mobile
18 devices. They can't be handed off separate and apart from that.

19 The lack of this functionality is fatal to Petitioner's
20 (indiscernible.) The primary thrust of the Carucel patents is to
21 improve the operation of standard cellular devices by means of a
22 moving base station. The apparatus of Carucel, the moving base
23 station, was to be inserted between the standard mobile device

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1 capable of registering and directly communicating with a
2 standard cellular network and a standard fixed base station or
3 other moving base station.

4 If you look at slide 48. In slide 48 we've highlighted that
5 Massa is to improve the interaction between an accessory adaptor
6 unit 23 and a handset 12 by enabling the cutting of the cord. On
7 slide 63 we see that Massa discloses that its adaptor unit
8 communicates with a portable handset at frequency outside of the
9 cellular band, thus Massa's MSS can only transmit its received
10 port signals to a portable handset and not to mobile devices as
11 (indiscernible) by the Carucel patent.

12 Slide 64. The key failure of this disclosure is that the
13 handset of Massa is incapable of directly registering with and
14 communicating with a standard cellular network, and that the
15 adaptor unit of Massa is incapable of handing off the handset of
16 Massa to any other base station separate and apart from its
17 adaptor unit. Restating this pragmatically, if I take my cell
18 phone or one of its predecessors going back to the time of Massa,
19 the Massa device is incapable of improving its functionality in
20 any significant manner. Additionally, if I take a portable device
21 like what's being talked about in Massa and I take it away from
22 the automobile unit of Massa, it's incapable of communicating
23 with any cellular network.

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1 The next slide, slide 50 please and that is for Thrower.
2 Thrower is directed towards overcoming the identified specific
3 issues that existed with prior art mobile radio telephone units. In
4 particular, their requirement of performing complex procedures
5 in order to register with the closest base station and its
6 requirement of complex and expensive equipment. Stated
7 differently, rather than being designed to enhance the
8 capabilities of a mobile device having the ability to register and
9 directly communicate with a standard cellular network, Thrower
10 was designed to eliminate the need for that extensive and
11 complex capability within those devices, thus teaching away
12 from Carucel.

13 Carucel's slide 51, please. If you look at slide 51 and then
14 also at slide 88, you will see that the invention of Thrower is that
15 multi-channel unit or gateway device in the bottom right hand
16 corner. It does not directly communicate -- the Thrower portable
17 devices do not directly communicate with the base station and
18 they don't directly communicate with a telephone network. They
19 have to be tied to the main unit of the gateway device of
20 Thrower. Thrower's telephones do not communicate with base
21 stations and there's no ability to take a Thrower portable phone
22 away from a gateway device and move it to another location and
23 have it directly tie into a fixed base station, a moving base

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1 station, or a fixed port. That portable phone simply will not
2 work separate and apart from going through Thrower's gateway
3 device. This makes it different than what the Carucel patents are
4 claiming.

5 Like Massa, Thrower's gateway simply do not extend or
6 improve the functionality of a standard cellular phone or any of
7 its predecessors going back to Thrower. Unlike Carucel,
8 Thrower is not designed to be inserted within a standard cellular
9 network to improve the functionality of the cell phones. It's
10 rather designed to allow for non-standard cell phones to be
11 utilized through its gateway devices.

12 The next piece of art being referenced is Ito and on slide
13 112 is the one I'm referring to here. It's another example of an
14 invention that's primarily designed to cut the cord between an
15 automobile telephone main unit and a portable handset. As
16 shown in Carucel's slide 112 it's eliminating first the cord
17 between the automobile telephone main unit and second, the
18 curled cord between the cradle and the handset that goes with
19 this portable device. Like Massa, the key failure of this
20 disclosure is that the portable device of Ito is incapable of
21 directly registering with or communicating with a standard
22 cellular network and the mobile device of Ito is incapable of
23 handing off that portable device to any other base station fixed

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1 or portable. Simply, they have to be paired together or they will
2 not work. Once again stating this pragmatically, if I take my cell
3 phone and I try to utilize it with an Ito automobile main unit or
4 base device it will not add any functionality to my phone and
5 like with Massa, if I take the portable handset and try to move it
6 apart from that unit I can't register or communicate with a
7 cellular network. It's simply not the same capability being
8 discussed in the Carucel patents.

9 The next reference is Gilhousen865, slide 113 and the
10 Gilhousen865 is directed toward improving the cellular radio
11 telephone communications between an airplane and a ground
12 based system. Slide 114 illustrates that Gilhousen865 is
13 comprised of two subsystems; an airborne-based subsystem and a
14 ground-based subsystem. The Gilhousen865 is designed
15 specifically for an aircraft in the air. This is a very important
16 distinction. Gilhousen865 utilizes as a repeater or in the
17 alternative, an airborne base station.

18 As I mentioned previously, at the time of the Carucel
19 invention, or Mr. Rhoades mentioned previously, communication
20 between people in the air and by ground was only by means of a
21 corded phone tied into the seat in front of you where that tie-in
22 was then directly wired into a high touch (phonetic) power
23 transmission piece of equipment or a transceiver in the plane. In

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1 fact, the power of these devices was such that when you were
2 below 10,000 feet they had to be disabled. This means that
3 communication between planes and cars is very different and one
4 key way --

5 JUDGE GALLIGAN: Counsel.

6 MR. SMITH: Yes.

7 JUDGE GALLIGAN: This is Judge Galligan. I wanted to
8 ask you about that. I -- I remember the days when there were
9 those corded phones on the seat but in Gilhousen it talks about,
10 I'm referring to Gilhousen865 here, it talks about those being
11 CDMA-type radio telephones so they don't -- those aren't
12 directly corded as I understand to the airborne base station, those
13 are radio phones, so why wouldn't those be cellular-type
14 devices?

15 MR. SMITH: As mentioned, and we have a slide that gets
16 to this point, and simply if I took my cell phone and you'll
17 recognize this, if I had my cell phone which is the same CDMA
18 device and I get in an airplane I can't use its base station to
19 communicate with the ground. Just because it has CDMA doesn't
20 mean it's compatible with that device. Also the additional
21 functionality here is that the fading issues in an airplane are far
22 different than the fading issues on the ground. There are many
23 more objects for distortion of the signals. There's a lot more

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1 signals to be interfered with. Cars are subject to much more
2 traffic, automotive or otherwise, than planes are subject to. Sure
3 there's air traffic but those have to be spaced out by miles for
4 FAA regulations for safety so it would be signal processing
5 capabilities needed on a plane are far different than those needed
6 on the ground.

7 We had some questions earlier and that would probably be
8 a good time to get into it. We had a question from Judge
9 Giannetti with respect to the figure 1 of the 023 and how it
10 showed devices, the mobile devices separate and apart from the
11 car and whether they had to be paired together or not.
12 Gilhousen390 has a very important limitation that's discussed in
13 our briefing and discussed in Exhibit 2100 by Mr. Lanning,
14 Carucel's expert at paragraphs 133 to 142 and that is the spatial
15 diversity techniques of Gilhousen only work with a 50 mile an
16 hour difference between the portable device and the unit with
17 which it's communicating.

18 So the purpose in figure 1 wasn't to say hey, these things
19 can't be in the same car, what they were geared towards saying
20 was the recognition that under 390 you needed the mobile device
21 that was enhancing the capability of the phone to be going within
22 30 miles an hour of the speed of the device with which it was
23 communicating in order for the CDMA techniques of

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1 Gilhouse390 to work and that was the limit of the capabilities at
2 that time. So it would have been unreasonably narrow for the
3 Carucel patents to have said hey, put it in the same device
4 because that would have limited the functionality to only going
5 the same speed. But by saying they had these separate mobile
6 devices that could move up to 30 miles an hour faster or 30 miles
7 an hour slower it's saying it's broader than that. It's not that they
8 have to move the same speed, it's that they can't be too disparate
9 in the speed differences because as you get that greater disparity
10 in speed, the technology simply won't keep up with the signal
11 and the call will be dropped.

12 In the Gilhousen865 it's important to recognize, just to your
13 point and I mean it sounds a little silly with respect to an
14 airplane, but we're talking about devices that were designed for a
15 cellular system primarily in ground with automobile
16 (indiscernible) but if I had the radio telephone of Gilhousen and
17 I was communicating to the ground through its airborne repeater
18 or airborne base station I couldn't stunt jump out of that plane
19 into another plane and continue communicating with the ground
20 because there is no capability for that airborne repeater or that
21 airborne base station to hand me off from one unit to another
22 unit separate and apart from that parent. Just like with Massa,
23 just like with Ito, the only way those work is if they stay paired

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1 to their device. That isn't what Carucel talks about. Carucel
2 talks about --

3 JUDGE GIANNETTI: Well, why would that be true? Mr.
4 Smith, why would that be true? You could have the same device
5 that's in the plane could be on the ground. What would prevent
6 that from happening?

7 MR. SMITH: The radio telephone units of Gilhousen, and I
8 think we have a slide on this, slide 150. There's nothing in
9 Gilhousen865 that discloses any capability of the radio telephone
10 to directly communicate with a fixed base station and there's
11 nothing in 865 that discloses any capability of the 865 radio
12 telephone to directly register with a cellular network. That
13 registration is either done by the repeater or it's done by the
14 airborne base station, there's no disclosure that it can be done
15 directly and there's no capability that it shows that it has the
16 ability -- those devices have the ability to hand it off.

17 Additionally, if you look at slide 147 in the abstract it
18 specifically identified that this is made for an airborne
19 communication system and more particularly it relates to radio
20 communications between an airplane and a ground base station.
21 So Gilhousen865 does not disclose that functionality and there's
22 nothing that would show it would be capable of making the
23 handoffs from one to another to continue that to work. Back to

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1 figure 1 --

2 JUDGE GIANNETTI: Counsel, let me just interrupt you
3 for a second, and I mean we've been going on and on about the
4 base, about the mobile device, but isn't this claim about the
5 mobile base station? Isn't that what this patent is about?

6 MR. SMITH: It is about the base station, but as I
7 mentioned previously this is about a base station that services
8 and interacts with mobile devices, so my point to that is, and the
9 whole argument with respect to the mobile device is, if I take my
10 mobile device -- my cell phone, a standard cell phone -- none of
11 these devices allow me to do anything with them. They're not
12 made compatible to that. I can't take my cell phone and call
13 through an 865 airborne repeater or the airborne base station. I
14 can't take my cell phone and use Massa's automobile main unit.
15 I can't take my cell phone and use Ito's mobile unit. I can't take
16 my cell phone and use Thrower.

17 JUDGE GIANNETTI: Counsel, my point here is simply
18 that your case seems to be built upon construction of a term that
19 isn't even positively claimed, it's inferentially claimed, and I
20 have a problem with that because the claims that I'm looking at
21 are directed to the mobile base station, they're not directed to the
22 mobile device. Can you respond to that?

23 MR. SMITH: Yes. First off, the patent has to be construed

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1 as a whole and read together for all of its component parts, and
2 when I'm talking about mobile base station then maybe I haven't
3 artfully stated this, is these mobile base stations are designed to
4 enhance the capabilities and connectivity of cellular mobile
5 devices or mobile devices which can directly register with a
6 network or can directly communicate with a network so that they
7 can move from one mobile base port to another mobile base port
8 or from one mobile base port to a fixed base port.

9 So the capability of the apparatus to interact with and
10 enhance the capability of the mobile device that we're talking
11 about and the mobile device that we're talking about is not
12 claimed, it's -- an example would be a modern day cell phone --
13 but the important thing is that the devices that are being asserted
14 against, not the mobile device but the apparatus which improves
15 the performance of the mobile device, none of those pieces of art
16 actually do anything for a standard cell phone. None of them
17 enhance the capabilities that a cell phone has. They don't allow
18 me to have four phones in the car, all of which are connecting
19 through Ito or Massa's automobile main unit and only have that
20 rather than the congestion of all four at the same time trying to
21 effectuate a handoff and increasing congestion of communication
22 with the cell, if I have four cell phones in Carucel each of them
23 can be connected to the mobile unit, the apparatus which is

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1 claimed and then there's only one handoff as we go from cell to
2 cell because those cells only see that the handoff of the
3 apparatus itself so there's far less traffic. Let's take Los Angeles
4 or let's take Chicago where you have --

5 JUDGE GIANNETTI: Yes. I don't mean to interrupt you,
6 but it just seems to me odd that when you talk about the
7 invention you focus on the mobile base station. When you talk
8 about the prior art you focus on the mobile device, and that
9 seems to me to be incongruous.

10 MR. SMITH: Well, what I -- I'll try it in a little bit
11 different way. The apparatus, now let's forget the device, the
12 apparatus, that apparatus has no capability. In Massa, Thrower,
13 Ito and Gilhousen⁸⁶⁵ the apparatus has no ability to enhance the
14 performance of a mobile device being one that can register.
15 There's nothing those devices do or disclose that make the
16 mobile device any better. What Carucel discloses is --

17 JUDGE KORNICZKY: Counsel, counsel this is Judge
18 Korniczky. I'm looking at the, well, claim 10 in the -- and this
19 limitation is in I guess most of the claims -- it says you have a
20 moveable base station, and that's in the preamble, comprising a
21 transmitter configured to transmit radio frequency signals to a
22 mobile device, and so you're focusing on the mobile device but
23 all this base station has to have is to be able to transmit radio

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1 frequency signals that can be picked up.

2 MR. SMITH: In light of the specification, and the
3 specification is clearly directed toward being able to have these
4 mobile devices handed off from one moving base station to
5 another moving base station or from one moving base station to a
6 fixed port. So read as a whole it includes that capability of
7 being able to hand them off, and with respect to Massa in
8 particular, I had a slide earlier that Massa communicates with its
9 portable device at a non-cellular frequency so it doesn't even
10 transmit the signals from its mobile station to its portable device
11 in the cellular range.

12 JUDGE GIANNETTI: Mr. Smith, let me follow up on
13 Judge Korniczky's question. I'm looking at the 023 patent but I
14 could be looking at any of the patents that we're talking about,
15 and I'm in column 6, line 48 or so, it's in all of the patents and
16 here's what it says. It says,

17 "The radio interface between the mobile units and the
18 moving base station," and then it says, "also between the fixed
19 base station is a standard radio interface."

20 That doesn't say cellular technology to me, it just says it's a
21 standard radio interface, and I think that's consistent with the
22 claim that Judge Korniczky just read to you. That doesn't tell me
23 that the mobile unit is capable of operating in a cellular network,

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1 it just says it's a standard radio interface.

2 MR. SMITH: As mentioned previously, in the
3 specification though it specifically provides that it must be
4 capable of directly registering. It doesn't have to but it must
5 have that capability and a non-cellular device would not have
6 that capability.

7 JUDGE GALLIGAN: Counsel, this is Judge Galligan. I
8 wanted to follow up and specifically on Gilhousen865. I'm not
9 seeing -- I'm not understanding your point. Gilhousen865, for
10 instance, has two embodiments, one where the repeater or the
11 base station on the airplane would act as a repeater, the other
12 where the base station actually registers the phones on the
13 aircraft and then the aircraft base station searches for the
14 strongest pilot signal and registers with that base station. That
15 appears to be that registration between a CDMA telephone -- the
16 base station and base station on the aircraft handles the
17 transmission to the ground base station -- that appears to be what
18 you're describing, so what's the distinction there? You said that
19 they're not standard CDMA telephones. It says in column 2 of
20 Gilhousen865 that typical CDMA radio telephone is described in,
21 and there's a patent number by Qualcomm. So if you could tease
22 that out a little bit, I'm not quite understanding that.

23 MR. SMITH: Yes. In column 2 it's specifically referring

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1 to the ground-based subsystem as opposed to the airborne
2 subsystem, but at a high level getting back to what we were
3 talking about before, the fading issues and traffic being wireless
4 congestion are far different for airplanes than they are for
5 ground-based systems. The transmission equipment on a plane
6 would overpower and cause problems if it was placed on the
7 ground which is the same reason that the transmission has to be
8 cut off below 10,000 feet and it doesn't deal with the fading
9 issues which is why Petitioners are trying to combine it with
10 Gilhousen390.

11 Another additional point that we made in the briefing for
12 why the combination of Gilhousen390 to address those fading
13 issues won't work with Gilhousen865 is because if you try to use
14 the spatial diversity configurations of Gilhousen390 on a plane
15 they won't function. They'll hand off. At that reference
16 previously in the Exhibit 2100, paragraphs 133 to 144, Mr.
17 Lanning talks about that the limits of the 390 configuration for
18 handling the fading problems that you occur on the ground is 50
19 miles an hour. That's why we ended up talking about planes
20 stalling and stall speeds and having to get below 50 because if
21 it's travelling more than 50 miles an hour, the CDMA techniques
22 disclosed in Gilhousen390 will not work. They will, if it's more
23 than that they disconnect and can't keep up the signal and can't

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1 do a handoff. So it's kind of an artifice to try and say this is the
2 problem --

3 JUDGE KORNICZKY: Counsel, this is Judge Korniczky.
4 You seem to be making a bodily incorporation argument.
5 Wouldn't a person of ordinary skill in the art know to modify
6 these circuits a little bit in order to account for the different
7 speeds and locations?

8 MR. SMITH: The problem is the techniques do not work at
9 the different speeds and probably one of the best examples --
10 one, we have direct testimony from Mr. Lanning that says they
11 don't work, but perhaps the most compelling piece of this is that
12 the inventor of the 865 and the inventor of the 390 was Klein
13 Gilhousen. Gilhousen was the founder of Qualcomm. Gilhousen
14 has dozens and dozens of patents directed to improving
15 communications to and from planes and to and from automobiles.
16 Do you know what Klein Gilhousen never did? Klein Gilhousen
17 never, never combined the spatial diversity configurations of 390
18 with the 865. I think it's incredulous to believe he didn't think
19 about it, didn't try to do it. I think it's far more likely that Mr.
20 Lanning is correct and they simply don't work together.

21 JUDGE GIANNETTI: You have approximately five
22 minutes left before you're into your rebuttal time. You have 50
23 minutes left.

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1 MR. SMITH: Thank you. I'll turn over at this point to Mr.
2 Warren.

3 MR. WARREN: Hello. This is Stanford Warren. Can you
4 hear me?

5 JUDGE GIANNETTI: I can hear you but I can't see you,
6 Mr. Warren. Ah, there you are. Okay, you can proceed, Mr.
7 Warren.

8 MR. WARREN: Okay. Well, my name is Stanford Warren.
9 I'm going to be discussing the 904 patent and the two combined
10 IPRs 01101 and 01573.

11 As we have already had, and in order to save time, many
12 discussions about the Gilhousen865 and Gilhousen390. Let me
13 back up. Slide 190, please. So there are eight grounds against
14 the 904 patent and there are four references. These are
15 Gilhousen865, Gilhousen390, Vercauteren and Forssen. We have
16 discussed quite a bit about Gilhousen865 and Gilhousen390, so
17 in regards to the 904 I'm going to limit my discussion to just the
18 Vercauteren and Forssen combinations and that would be to
19 ground 2 and ground 6.

20 Slide 192, please. Vercauteren is directed towards
21 providing an alternative non-standard wireless network.
22 Vercauteren actually says at the very beginning of the
23 background that while it knows about cellular systems such as

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1 GSM, it spends the next of column 1 and most of column 2
2 saying why his system is actually more advantageous. It uses
3 non-standard base stations which are called relay stations. It
4 uses non-standard mobile terminals called multi-mode terminals
5 and a non-standard connections of static and mobile relay links.
6 It is -- Vercauteren's alternative non-standard wireless network is
7 basically comprised of two relay links; fixed links known as the
8 global coverage fixed network and radio links known as the
9 global coverage radio network.

10 Next slide please. When you look at figure 5 of
11 Vercauteren and if you look at the second bullet point, what
12 Vercauteren uses to try and perform certain functions and has
13 communications with are its fixed relay stations the (FRRS) and
14 its roaming relay stations the (RRS).

15 Slide 194. The only moving apparatus disclosed by
16 Vercauteren that is capable of communicating with its mobile
17 terminals, and its mobile terminals do most of the actual
18 processing, is the roaming relay stations. Vercauteren's roaming
19 relay stations are purposely limited to minimum intelligence and
20 do not contain any tie to base station functionality and
21 Vercauteren says this is because of the complexity of doing it,
22 it's trying to make a simpler wireless network, and because of
23 economic reasons because of the cost of implementing this and

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1 its standard cellular system.

2 Instead Vercauteren relies on its fixed base stations for
3 complex control functions including the hand-over and it relies
4 on its mobile terminals, either TMT or DMT, to collect and
5 organize measurement data in order for the fixed base station to
6 make the appropriate hand-over decisions in its mobile
7 communications.

8 Forssen, the other reference cited and used in ground 2, is
9 actually only used by the Petitioners for its disclosure of a
10 receiver, a spatially separated antenna. Petitioners concede that
11 Forssen does not disclose any of the major elements of the 904
12 patent claims that we have discussed before such as a moveable
13 base station or a mobile unit. Nor would a POSITA be motivated
14 to combine Vercauteren with Forssen. Carucel notes initially
15 that nowhere in Petitioner's presentation did they provide any
16 actual hard factual evidence for these to combine other than
17 some conclusory statements by their own expert. There is simply
18 no evidence that a POSITA would ever have thought to combine
19 Vercauteren's alternative non-standard cellular system with
20 Forssen's receiver and a spatially separated antenna.

21 JUDGE GIANNETTI: Mr. Warren, just let me interrupt
22 you for a second here. I just wanted to caution is you're into
23 your rebuttal period. You can continue but we're just at 45 --

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1 MR. WARREN: (Indiscernible.)

2 JUDGE GIANNETTI: -- we're just at 45 minutes. You can
3 continue if you like but you'll have less rebuttal -- surrebuttal
4 time, I guess I should say, surrebuttal time.

5 MR. WARREN: Thank you, Your Honor. Anyway,
6 Vercauteren is a non-standard wireless network. It uses relay
7 stations that have purposely limited functionality. If you look at
8 slides 205 and 206, and 207, in 205 and 206 we demonstrate
9 what the specification of Vercauteren says and how these relay
10 stations are limited and if you go to slide 207 Carucel's expert
11 testimony by Mr. Lanning essentially states that the issues of
12 trying to combine these two would simply be too much. They
13 would require extreme amount of the circuitry and none of this is
14 disclosed by either Vercauteren or Forssen. Also a POSITA
15 would not have been motivated to modify these two because it
16 would have resulted in an operable (phonetic) device.

17 Therefore, Vercauteren and Forssen do not make obvious
18 any of the claims of the 904 and additionally, one of the other
19 things turning to -- let's see, so we're now going to turn to
20 ground 6, so slide 265 please. Ground 6 relies solely on
21 Vercauteren in independent claim 56. As it relates to claim 56
22 Vercauteren also fails because it contains the elements of a
23 mobile unit just as independent claims 22, 34 and 50 did and

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1 turning to slide 263, the second element which is simultaneously
2 handing off a plurality of mobile units to a second fixed port,
3 slide 264, which is not disclosed by Vercauteren. The only relay
4 station (RRS) does not collect or organize any measurement data
5 or select the optimal path. These functions are performed by the
6 mobile terminal and the fixed base station as set forth in ground
7 2 of claims 22 and 28. It is Carucel's position that claims 22 and
8 56 is not obvious in light of Vercauteren but the dependent
9 claims would also not be obvious, and this concludes our
10 presentation on the 904 and we rest on our briefs for the
11 remainder of our arguments as to this patent and we would
12 respectfully reserve the remaining time for our rebuttal.

13 JUDGE GIANNETTI: All right. Thank you very much,
14 Mr. Warren. You have about 41 minutes left for your
15 surrebuttal.

16 MR. WARREN: Thank you, Your Honor.

17 JUDGE GIANNETTI: Okay. Rebuttal for the Petitioners.
18 I don't know who's going to go first. Let's see.

19 MS. CALLAGHAN: I'll go first, Your Honor.

20 JUDGE GIANNETTI: Okay, fine.

21 MS. CALLAGHAN: This is Michelle Callaghan for
22 Unified Patents.

23 JUDGE GIANNETTI: Okay. All right. You -- I don't

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1 know how you want to divide this up but if you go by your initial
2 estimate designations you have 14 minutes left and Mr.
3 Richardson has 30. So I'll just start the clock, it's at about 44
4 minutes right now and we'll just start the clock. You have 14
5 minutes and if you go longer then Mr. Richardson will have less
6 time and you can work that out between you. All right, Ms.
7 Callaghan, you can proceed.

8 MS. CALLAGHAN: Thank you, Your Honor. First,
9 regarding the construction of "configured to" we just wanted to
10 clarify Carucel indicated that its construction is material but it
11 does not appear anywhere in the briefing or its oral arguments
12 today that it is new material to Unified's proceedings but just to
13 VW's proceeding.

14 Second, Your Honors have asked how the 023 patent solves
15 the problem of handoffs and if it just shifts the problems of the
16 mobile device to the moving apparatus, and Massa and Thrower
17 provided the solution years before the 023 patent, having a
18 longer range accessory apparatus communicate with the cellular
19 base station on behalf of the mobile device. Massa expressly
20 talks about the accessory apparatus as it may be able to increase
21 the range of the handset and while Thrower also describes the
22 communal unit handoff, at least at column 6, lines 49 to 60, and
23 finally, Your Honors, highlighting of the handoff demonstrates

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1 that it's not to the invention that the mobile device be a cellular
2 device and this is consistent with the statements in the
3 specification that contemplate application of the invention to
4 terminals of all kinds including cordless phone context as
5 discussed on slide 13.

6 Third and finally, regarding mobile device. Carucel asserts
7 that registering with a network, well first the reply demonstrated
8 that both Thrower and Massa taught this limitation even under
9 Carucel's construction. So contrary to Carucel's assertions, the
10 construction is not dispositive. Carucel simply refuses to engage
11 with the statements in the reply, for example that Massa clearly
12 contemplates cellular devices and Dr. Madisetti's testimony as
13 shown on slide 28 that the same thing you could do for the
14 handset 26 you could do with these cellular devices. It just
15 expresses a preference for this cordless handset because it's a
16 lower cost device. It has nothing with the ability, and for
17 Thrower they only allege now that the mobile device cannot
18 directly register with the network. Carucel ignores Thrower's
19 express teaching in the abstract that it does directly communicate
20 with a cellular network as a paging unit even without a gateway
21 device, and they keep calling Thrower's portable telephone a
22 cordless phone but they ignore that Thrower repeatedly talks
23 about how the device is capable of registering with multiple

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1 gateway devices and communal units which is different than
2 Carucel's characterization of cordless phone which requires one
3 base station at a time. So their understatement of the prior art,
4 even if you accept their construction, Your Honor, the claims are
5 still obvious.

6 Finally, (indiscernible) not only wants to not only cellular
7 here into the claims and not only registering into the claims, but
8 they also want to write in registering without the use of any
9 other device and communicating some unspecified kind of
10 cellular signal into the claims, which Carucel doesn't even
11 identify anymore, into the simple term mobile device. This is
12 simply not supported by the specification, so Your Honors don't
13 even need to reach these issues if we simply take the claims at
14 their face. The patent here does everything that it could to
15 ensure that mobile device was not limited to cellular devices. It
16 does not use that term in the claims whereas in other patents and
17 parts of the specification it does. It did not limit the invention in
18 the specification and it even included a manifest of statements of
19 intent to cover cordless phones as discussed on slide 13.

20 Even if the main embodiment, the preferred embodiments
21 or all of the embodiments in the specification are limited, the
22 (indiscernible) is clear that it's wrong to add limitations to the
23 claims without express statements of manifest intent, and again

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1 slide 24 of the Carucel demonstratives is telling. Right there you
2 have cellular telephones described but then they use the more
3 generic term mobile unit throughout the specification. All of the
4 prior art works in cellular telephone systems. Every single
5 reference that Unified cites. On slide 11 and slide 52 even, the
6 claim is the name of the game. There's no mention of the speed
7 of the apparatus in the claim, it just has to move relative to the
8 earth and all of the prior art does that.

9 There is no mention of registration in the claims and now
10 Carucel seems to assert that it's not inherent in mobile device
11 and that it's captured by other claim limitations which begs the
12 question of why it needs to be in this term. There's no mention
13 of cellular in the claim even though the patentee uses that term
14 throughout the specification and even distinguishes between the
15 cellular base station and the claimed base station, and then
16 there's no mention of handoff in the claim. The patentee had the
17 opportunity to incorporate these concepts into mobile device and
18 the claims but didn't, instead settling on radio device in the
19 prosecution history. The bottom line is that this claim was
20 drafted intentionally broadly and they cannot retroactively
21 rewrite them now to avoid the prior art. The mobile device is
22 not inventive. It is the claimed apparatus that the Applicant said
23 was invented and this is expressly taught by both Massa and

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1 Thrower.

2 Finally, Your Honors, Carucel mentioned that the prior art
3 is not compatible, and it relies on its expert for this proposition.
4 I just want to turn quickly to slide 58. Mr. Lanning testified that
5 he's not speaking from a legal point of view that it's not proper
6 to combine the references, just that the invention of Massa is not
7 what you build on and again, he just kind of handwaves that
8 issue. Why not? Why can't you incorporate the knowledge of a
9 POSITA into this invention, especially when Massa expressly
10 talks about cellular phones.

11 He said he did not use a legal standard. If we go back to
12 slide 28, Dr. Madisetti applies the correct (indiscernible)
13 standard, the perspective of a POSITA and that is the standard to
14 apply here. It certainly would have been appropriate to consider
15 whether or not Massa's handset 26 is a cellular device if Carucel
16 is writing that into the claim. I think that's all I have, Your
17 Honors. I can loan the rest of my time to VW if they require it,
18 unless Your Honors have any questions or would like
19 clarification.

20 JUDGE GIANNETTI: Okay. Judge Galligan, Judge
21 Korniczky, any further questions for Ms. Callaghan?

22 JUDGE KORNICZKY: This is Judge Korniczky. I have no
23 further questions.

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1 JUDGE GALLIGAN: Nothing for me. Judge Galligan.

2 Thank you.

3 JUDGE GIANNETTI: Okay, fine.

4 MS. CALLAGHAN: Thank you, Your Honors.

5 JUDGE GIANNETTI: Okay, Mr. Richardson, I guess
6 you're up to close things out for the Petitioners. You have 36
7 minutes to continue.

8 MR. RICHARDSON: Great. Thank you, Your Honor. So
9 there's just a handful of points that I want to clarify from the
10 points that Carucel addressed during their time. Now first and
11 foremost, Your Honors, as you heard and you surmised from
12 Carucel's arguments is that their primary argument which applies
13 across all four of the patents that are at issue in the proceedings
14 involving Volkswagen primarily hinge on whether the mobile
15 devices are capable of directly communicating with the cellular
16 network, and Your Honors, it's telling that Carucel has chosen to
17 hinge their arguments, or excuse me, their positions on this
18 particular argument, when in fact their claims, each and every
19 claim explicitly recites processes that seek to eliminate such a
20 direct communication. Each of the claims requires a
21 communication to go through the moving base station. They're
22 seeking to require this exact feature that Carucel has chosen to
23 hinge its primary arguments on across all four patents.

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1 Putting that general issue aside, Your Honors, we heard a
2 lot about the handoff, and indeed Your Honors are correct that if
3 in fact the moving base station as disclosed in the asserted
4 patents was implemented within the same vehicle that also
5 contained the moving device, the alleged handoff problem would
6 not be solved. You would have the exact same number of
7 handoffs and the exact same number of dropped calls.

8 Putting this issue aside, that issue is of no consequence to
9 these particular proceedings and specifically to the references
10 that Petitioner Volkswagen relies on in its papers across the four
11 proceedings, and I say that because although these slides here
12 today and the papers in its proceedings have predominately
13 focused on situations where the mobile device and the moving
14 base station are indeed included in a single vehicular unit
15 consistent with Carucel's positions on infringement, however,
16 these references aren't limited to that.

17 If we take a look at Ito, the Ito reference that's used as a
18 primary reference across three of the four challenged patents, Ito
19 acknowledges in column 3 starting at line 27 that in conventional
20 automobile communication systems, it was known that you could
21 remove the portable devices from the car. You could have these
22 things in two separate positions, thereby having different speeds
23 and thereby having the opportunity to result in less handoffs, a

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1 fewer number of handoffs.

2 We see something similar in Vercauteren as well. In
3 column 17 beginning at line 9 and going to line 16, and perhaps
4 this is one of the more telling descriptions of this. So at this
5 particular portion of Vercauteren, Your Honors, in this particular
6 portion of Vercauteren what we're told is that the relay -- you
7 could have a system in which certain measurements are taken.
8 You can take measurements relating to the roaming relay station
9 and specifically of the speed of the roaming relay station and you
10 can take and account for measurements relating to the speed of
11 the mobile terminal, and it specifically says in this portion of the
12 reference that when you take these measurements and you
13 account for these measurements in this way the handover
14 decision can be made dependent on these speeds in such a way
15 that the mobile terminals are coupled to roaming relay stations
16 with a similar speed. Not the exact same speed necessarily, but a
17 similar speed, thus ensuring that the number of handovers is
18 minimized thereby solving the alleged problem to be solved by
19 each of the four challenged patents.

20 Now, Your Honor, moving on to another point that Carucel
21 had raised in their direct arguments was that they made a
22 statement about the 023 patent in particular, but all four patents,
23 being the first ever time that an intermediary device was dropped

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1 in between a fixed base station and a moving mobile unit that
2 offered CDMA communications. But Your Honors, that's just
3 not true, and it touched on a number of points in the
4 Gilhousen⁸⁶⁵ reference where it talked about its system being
5 compatible with CDMA-type communications and referred to its
6 radio telephones as CDMA radio telephones.

7 We see a similar statement again in Vercauteren, and this
8 one comes in column 13 of Vercauteren where it -- column 13,
9 line 35 through 40. At this portion we see it specifically
10 discloses that the radio devices and the links connecting to those
11 radio devices when you have the indirect coverage or the indirect
12 communication path that we're talking about for the four
13 challenged patents, it says it is CDMA multiple access CDMA as
14 well known in the art. So although Vercauteren talks about
15 using different types of protocols and carrying out different
16 processes to establish communication, it says you can have it
17 done as CDMA as was well known. These are things a person of
18 ordinary skill in the art would have known and these are things
19 that a person of ordinary skill in the art would have drawn upon
20 when combining and analyzing each of the references asserted
21 across Volkswagen's proceedings.

22 Now, Your Honor, another point that Carucel raised several
23 times during their time was this issue about a cordless phone.

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1 Importantly, we see the claim construction position that Carucel
2 set forth for mobile device did not carve out cordless phones.
3 There's nothing in the specification that specifically carves out
4 for in cordless phones. But that's not the issue, Your Honor, that
5 is a red herring that could have no bearing on the patentability
6 outcome in these proceedings as they pertain to Volkswagen. In
7 fact there is nothing in the primary references that Volkswagen
8 has relied on that limit their disclosure to cordless phones.

9 For example, if you turn to slide 29 of Petitioner
10 Volkswagen's slide deck we see the crux of Carucel's argument
11 as it pertains to cordless phones as presented here. They say that
12 Ito does not disclose an ability to register or directly
13 communicate with the cellular network, and in support of that
14 they have a string cite and the very first words in that string cite
15 are alternatively in a second possible application. Volkswagen
16 does not deny that in an alternative second possible application.
17 Ito was specifically attempting to get rid of a cord between a
18 phone and a mobile station.

19 However, what Carucel does not focus on and what is
20 represented on slide 30 of Petitioner's slide deck is that there's
21 another embodiment in Ito which specifically talks about mobile
22 devices that communicate directly with fixed base stations, not
23 cordless phones, devices that communicate and analyze signals

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1 from a fixed base station and Ito specifically tells us that this
2 embodiment of its alleged invention is describing the context of
3 known cellular-type automotive telephone systems in column 1,
4 lines 8 through 17 of Ito. There's no reason to describe cellular-
5 type automotive telephone systems in Ito if Ito was limited only
6 to cordless phones. It's a red herring, Your Honor, Ito is not
7 limited in that capacity.

8 The same holds true for the Gilhousen865 reference. Your
9 Honors already noted that the Gilhousen865 reference makes
10 numerous references to CDMA systems, CDMA-type technology
11 and even identifies the radio telephones as CDMA radio
12 telephones. Again, this is not a cordless phone. Gilhousen865
13 specifically discloses two types of embodiments. One for its
14 airborne connection system or intermediary device is a repeater,
15 but another one in figure 4 where it is an airborne base station
16 that carries out processes of handoff and registration as would be
17 done in normal conventional cellular-type systems if they existed
18 on the ground and in fact, Your Honors, Gilhousen specifically
19 discloses at column 3, lines 57 through 59, it specifically
20 discloses that the radio telephones implemented in its system that
21 they are enabled to search for the strongest pilot signal of the
22 next cell and register with that base station. In that embodiment,
23 these radio telephones can directly communicate and register

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1 with the ground base stations. These are not capabilities of
2 cordless phones and they should not be limited or proceed to be
3 limited as such.

4 In fact, Your Honors, if we look at Petitioner Volkswagen's
5 slide 105. On the left hand side portion of slide 105 we in fact
6 see Carucel admits this in their Patent Owner response for the
7 904 patent. They specifically said as evidenced by Petitioner's
8 own assertion Gilhousen865 explicitly discloses that its handoff
9 function is performed by its radio telephone. Your Honor, there
10 would be no purpose to that functionality as Carucel admits to
11 exist if Gilhousen865 was limited to cordless phones.

12 Your Honor, we also heard Carucel's arguments relating to
13 the speed at which the plane in Gilhousen865 is capable of or is
14 designed to travel at. Now, Your Honors, this is another red
15 herring for lack of a better term, and if we want to turn to slide
16 58 of Petitioner Volkswagen's slide deck we see here that
17 Carucel has premised its argument on this idea that
18 Gilhousen865's plane needs to travel at 500 miles per hour, the
19 presumed speed of a commercial airliner. Your Honor, that's not
20 the case. Petitioner Volkswagen has, through its expert
21 declaration as well as supporting evidence, specifically the
22 Exhibit 1037, has shown specific examples of how aircrafts and
23 airplanes that existed prior to the 023 and every other patent's

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1 priority date, how they were capable of travelling at low speeds
2 in the 30 and 40 mile an hour range.

3 Now, Carucel made a point to note that the specific, the one
4 reference that Volkswagen pulled out from this particular
5 document related to how planes can travel at stall speed or what
6 the stall speed of a plane was and that was just one example that
7 Volkswagen provided for the Court's benefit to show a lower
8 limit on the potential travel speeds. That reference, the 1037
9 reference, discloses in several other places normal operating
10 speed ranges and particularly at page 16, that reference identifies
11 a normal operating range as low as 40 miles per hour. This is
12 well below and well within this 50 mile an hour cut-off range
13 that Carucel has identified in its papers and also reiterated
14 during its time today. There is no 50 mile an hour cut-off time
15 that would prevent person of ordinary skill in the art from
16 combining two teachings.

17 In fact, Your Honor, and as explained in Volkswagen's
18 expert declaration and specifically in Dr. Ding's reply
19 declaration at paragraph 48, he explains that regardless of the
20 speed at which a system is moving, you would always experience
21 some benefits to implementing spatial diversity techniques. It's
22 not the case that if you were travelling 51 miles an hour that you
23 would 100 percent of the time never use spatial diversity. When

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1 you use spatial diversity you're always going to have the
2 opportunity to have improved signal quality by the nature of
3 spatial diversity because you're receiving multiple iterations of
4 the same signal travelling across multiple different paths and the
5 chances that any path is fading at the exact same amount is
6 minimal and so when you receive these multiple signals and then
7 you subsequently combine them as in diversity combining
8 techniques discussed in our papers you're always going to have
9 the opportunity of having a better received signal quality than if
10 you chose to just receive one signal. So a person of ordinary
11 skill in the art would not have seen speed, particularly speeds
12 that were already lower or already could be lower than 50 miles
13 an hour as a deterrent to combining Gilhousen390's spatial
14 diversity techniques with Gilhousen865's airborne base station
15 and just to reiterate, Your Honors, as we pointed out in our
16 direct portion of today's time Gilhousen865 is not limited to
17 airborne systems. It specifically discussed the Tiedemann
18 reference that talks about implementing specific processes and
19 specific functionality as designed for vehicular highway traffic.
20 There's nothing in Gilhousen865 that would prevent or that
21 would lead a person of ordinary skill in the art to believe it was
22 inapplicable to ground base for vehicular travel alone on a
23 highway.

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1 Your Honors, we also heard a passing reference in
2 Carucel's time about CDMA-type systems not being able to be
3 combined with CDMA or FDMA-type systems and as Carucel's
4 only support for that argument is that they allege to date or in
5 modern times there have not been companies that have
6 implemented in the real world systems combining CDMA, TDMA
7 and FDMA and, Your Honor, putting aside the possibility of
8 whether our system that combine these two or not, that question
9 is not germane to the result as to whether CDMA, FDMA and
10 TDMA could be combinable and whether persons of ordinary
11 skill in the art would have understood them to be combinable at
12 the time in the 1995 time frame and in fact, Your Honors, if we
13 turn to slide 52 of Petitioner Volkswagen's slide deck we see that
14 there is evidence in the record, and the only secondary evidence
15 in the record that establishes that TDMA, FDMA and CDMA can
16 be combined, specifically exhibit -- the document that is titled as
17 "The ITU Document" and it is Exhibit 1038 in the 023
18 proceeding we see that it specifically identified composite
19 CDMA, TDMA and FDMA-type systems.

20 Not only did it identify these composite systems, we see on
21 slide 53 that it articulated and defined in specific benefits to
22 combining these types of multiple access techniques. Those
23 could be helping to mitigate link performance degradation and

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1 other fading issues which, as identified in Petitioner's papers, are
2 the crux and the reason for combining the references as
3 Petitioner has identified and Carucel knows about this, Your
4 Honor. Carucel, this document, this 1085 document, is a
5 document that Carucel's own expert relied on and used in a
6 previous IPR proceeding, and so there is no question as to the
7 veracity of the document as they believed it to be a trustworthy
8 and accurate document, at least in one other proceeding.

9 And, Your Honor, the next point that I would like to
10 address is Carucel raised the argument relating to the
11 Vercauteren reference and raised an argument specifically as to
12 whether the Vercauteren reference and the mobile terminals
13 disclosed in that reference, whether those sufficiently disclose
14 Carucel's proposed claim construction for mobile device. We
15 touched on this briefly in the direct portion of our time, Your
16 Honors, but just to reiterate the point one more time.

17 On slide 101 of Petitioner's slide deck we see very clearly
18 Vercauteren identifies that its mobile terminals can be referred
19 to as conventional handheld cellular-type applications that are
20 designed and could be supported by known GSM networks. Its
21 devices could have cellular capabilities. We talked a couple of
22 minutes ago about how Vercauteren also refers to being able to
23 use CDMA. But more than that, Your Honor, Vercauteren and

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1 again as shown on slide 101, Vercauteren at column 7, 55, makes
2 abundantly clear that its mobile terminals can be coupled to
3 fixed base stations either directly or indirectly. Your Honor,
4 there should be no dispute. Vercauteren says it on its face that
5 its devices have cellular capabilities and were capable of directly
6 communicating with a fixed network and, Your Honor, that is the
7 last point that I had in my agenda to cover and I'd be happy to
8 answer any more questions that you may have, otherwise I'm
9 prepared to cede the rest of my time.

10 JUDGE GIANNETTI: This is Judge Giannetti. I just have
11 one question. I'm still trying to determine whether there is a
12 dispute or not on the preamble "configured to" language. What
13 I thought I heard from the Patent Owner is that they are
14 disputing that language, at least they maybe disagree with you on
15 the meaning of traffic and how it might apply to the Gilhousen
16 references. Can you comment on that, and where do you stand
17 on whether that preamble is material or whether you dispute the
18 interpretation that I thought I heard from the Patent Owner?

19 MR. RICHARDSON: Absolutely, Your Honor. So to
20 answer that I can direct your attention to slide 95 of Petitioner's
21 slide deck and just so that we're all clear about what the
22 construction that Carucel has identified is on the bottom of slide
23 95 we see that Carucel proposes this term to be construed as

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1 instructed to move with traffic at a rate of speed which is
2 comparable to the speed of traffic. Now on its face those words,
3 Your Honor, and that's the construction that was applied by the
4 District Court, Petitioner Volkswagen has no problem with that
5 construction. It believes that that construction is fine if a
6 construction needs to be imposed in these proceedings and
7 should have no bearing on the outcome because it should not
8 shift the needle as it applies to the applied references.

9 However, Your Honor, there is one caveat and you hit the
10 nail on the head as far as this term traffic. Carucel is attempting
11 to overly limit that term traffic. Traffic should be understood in
12 the context of these challenged patents and specifically if we
13 look at slide 96, on the left side of slide 96 we see a portion of
14 the 023 patent and we see in column 2, lines 39 through 42.
15 These patents describe several different types of traffic, talks
16 about pedestrian traffic and other traffic moving at speeds below
17 30 miles an hour. There is no portion of these patents that say
18 traffic is 100 percent must be limited to automobile traffic on a
19 roadway. So any attempt to limit the prior District Court
20 construction further in that regard Volkswagen Petitioner would
21 have a problem with that. But if traffic is given its normal and
22 understood meaning which is shown on the right hand side
23 portion of slide 96 which is support of the common dictionary

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1 definition is vehicular traffic moving on a public highway in the
2 air or at sea, we would have no problem if the term traffic was
3 understood to mean its plain and ordinary meaning.

4 JUDGE GIANNETTI: Okay. Thank you, counsel.

5 JUDGE GALLIGAN: (Indiscernible.)

6 JUDGE GIANNETTI: Any further -- yes.

7 JUDGE GALLIGAN: I have one question.

8 JUDGE GIANNETTI: Go ahead.

9 JUDGE GALLIGAN: I just wanted to -- thanks. This is
10 Judge Galligan. I just wanted to follow up on traffic. Is there
11 some meaning among the parties, and I can ask if Patent Owner
12 can comment on this in its presentations, as to what the speed of
13 traffic is? I mean I'm notorious for picking the slowest lane and
14 everyone whizzes by me so I'm just curious what -- is the speed
15 of traffic just something on a road? You would just say it's just
16 a vehicle, it's vehicular traffic, something -- the speed of
17 something which tells me it's just really putting the mobile
18 device into a vehicle that moves would be consistent with this
19 construction.

20 MR. RICHARDSON: That's Volkswagen's position, Your
21 Honor, is that there's nothing in the record that should limit
22 traffic to having to move on a roadway. I do not understand
23 Patent Owner's position to be, and if I am wrong on this they can

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1 definitely clarify it in their time, I don't understand their
2 position to be that traffic as used in this particular definition has
3 a specific speed limitation. The only limiting speed that I've
4 heard or seen in Patent Owner's papers has been the 50 mile an
5 hour speed which they use to be a gating factor as to whether
6 Gilhousen865 could be combined with Gilhousen390. I don't
7 think there's a miles per hour speed limit on this particular term.

8 JUDGE GALLIGAN: All right, thank you.

9 JUDGE GIANNETTI: Judge Korniczky, anything further
10 from you?

11 JUDGE KORNICZKY: I have no further questions.

12 JUDGE GIANNETTI: Okay. Thank you very much, Mr.
13 Richardson.

14 MR. RICHARDSON: Thank you, Your Honors.

15 JUDGE GIANNETTI: All right. Patent Owner surrebuttal.

16 MR. RHOADES: Yes. This is Scott Rhoades speaking.

17 JUDGE GIANNETTI: Okay, Mr. Rhoades. You have about
18 41 minutes so you can proceed when you're ready.

19 MR. RHOADES: Great. I want to just kind of mainly
20 touch back on mobile device real quick and I think there's a few
21 overlying thoughts that we need to keep in mind. The first is the
22 invention is that mobile devices can be moved from one
23 moveable base station to another and that if you have a moveable

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1 base station in a vehicle anyone that has a mobile device as set
2 forth in the specification can come and use that moveable base
3 station.

4 A lot of what we're seeing in the prior art is the mobile
5 device is specifically tied to one station. It only works if it's in
6 that specific claim. It only works if it's in that specific car and
7 the invention is providing an opportunity for someone to get in
8 one vehicle or another vehicle or another vehicle with their
9 mobile device that registers with the cellular network and can
10 communicate directly with that network but you have to use that
11 moveable base station.

12 The other biggest point I think we need to keep in mind is
13 its mobile device is defining what or to what the moveable base
14 station communicates. Earlier there was comments that can you
15 just use Wi-Fi, but in 1995 there was no Wi-Fi. Wi-Fi wasn't
16 invented until after 1995. At the time of the invention if you
17 took your laptop and put it in the car, a moveable base station
18 wouldn't communicate with it because that laptop isn't going to
19 communicate with a cellular network unless that laptop had
20 functionality in it and it allowed it to register with the network
21 and directly communicate with the network.

22 Same with an iPad or PDA or anything else. We need to
23 keep in mind at the time there was no Wi-Fi, there was not that

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1 communication link that we have today which allows everything
2 to be communicating with the computer system or moveable base
3 station and mobile device at the time would have either been just
4 a dead piece of plastic or it had to communicate with the cellular
5 network directly or it had to -- and register with the cellular
6 network otherwise it wouldn't function (indiscernible) --

7 JUDGE GIANNETTI: Counsel, I believe I read your
8 colleague a section and referred your colleague to a section of
9 the 023 patent, it refers to standard radio, okay? It says, I'm on
10 column 6 around line 48.

11 MR. RHOADES: Yes. Cellular is standard radio.

12 JUDGE GIANNETTI: "The radio interface between the
13 mobile units and the moving base station and the fixed base
14 station is a standard radio interface well known in the art."

15 Then it goes on to say,

16 "The radio interface between the moving base station and
17 the fixed radio port 50 is preferably a time division multiplexed,
18 direct-sequence, spread-spectrum, code-division multiple-access
19 interface (TDM/CDMA)."

20 That's cellular communication there, right?

21 MR. RHOADES: Right. That is cellular communication.

22 JUDGE GIANNETTI: But that -- it's distinguishing the
23 communication link between the moving base station and the

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1 fixed ports 50 from the communication link between the moving
2 base station and the mobile units, isn't it?

3 MR. RHOADES: No, because standard radio
4 communication is -- cellular is an example of standard radio
5 interface. Cellular communication falls in that category. But
6 again, and I guess this is where I'm on --

7 JUDGE GIANNETTI: There was -- let me go back. There
8 was radio, there was a standard radio interface before TDM and
9 CDMA, wasn't there?

10 MR. RHOADES: Yes.

11 JUDGE GIANNETTI: Well I don't understand why the
12 patent just didn't say all of these links are TDM, CDMA, et
13 cetera, instead of distinguishing between a standard radio
14 interface and a radio interface using TDM, CDMA? How do you
15 explain that?

16 MR. RHOADES: I can't explain why the patent, you know,
17 the inventor decided to describe it this way but I guess what
18 we're focusing on is how the system is communication, I'm trying
19 to say that the invention is determining what device it
20 communicates with, not how it communicates it with. A
21 moveable base station, if the device cannot communicate with a
22 cellular network then there is no need and there is no moveable
23 base station, has no functionality because it doesn't sit between

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1 the mobile device and the cellular network. The mobile device
2 and the cellular network have to be communicating, have to have
3 the ability to communicate before the moveable base station can
4 sit between them. That's the invention. A cordless phone, I
5 could set a cordless phone in the car with the moveable base
6 station and it would never communicate because it communicates
7 on -- it doesn't communicate with the cellular network, therefore
8 the moveable base station doesn't communicate with the cordless
9 phone.

10 JUDGE GIANNETTI: Well, I don't quite see that. From
11 what I just read to you it sounds there's a standard radio link
12 between the mobile base station and the mobile unit and a
13 cellular-type communication link between fixed radio ports and
14 the moveable base station. They're two different kinds of radio
15 links there. That's what I'm seeing in this paragraph.

16 MR. RHOADES: I understand the radio link but what
17 mobile device are you saying is communicating with the
18 moveable base station if the mobile device is not capable of
19 directly communicating with the cellular network?

20 JUDGE GIANNETTI: Well it might be any kind of device.
21 It might be -- well today it would be a Bluetooth device but
22 standard radio interface, whatever radio interfaces were available
23 in 1995.

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1 MR. RHOADES: And I think that's the point we're getting
2 at is this Wi-Fi wasn't available, Bluetooth wasn't available in
3 1995.

4 JUDGE GIANNETTI: Radio was available.

5 MR. RHOADES: What's that?

6 JUDGE GIANNETTI: Radios had been invented long
7 before then.

8 MR. RHOADES: I mean yes, but they are not registering
9 with a cellular network. They're not communicating with a
10 cellular network.

11 JUDGE GIANNETTI: It didn't say anything -- it doesn't
12 say anything in this paragraph about registering with the cellular
13 network.

14 MR. RHOADES: I understand what you're trying to say but
15 it's how it communicates -- the functionalities used to
16 communicate isn't what's at issue. It's the moveable base station
17 sits between a device that directly communicates with the
18 cellular network and the cellular network -- let me explain this in
19 another way. As we discussed earlier than you brought up it's
20 the handoff issue. There is no handoff issue if that device isn't
21 communicating with the cellular network. So therefore the
22 purpose that you stated for the invention, there is no purpose for
23 it because if that portable device, if that mobile device that is not

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1 communicating with the cellular network there is no handoff
2 issue because it doesn't get handed off between cellular
3 networks.

4 The invention has to be defined as the mobile device has to
5 be of a type that communicates directly with the cellular network
6 so that the moveable base station can assist with the handoff as
7 that mobile device is moving from one cellular network to
8 another.

9 JUDGE KORNICZKY: Counsel, this is Judge Korniczky.
10 So I'm looking at the 701 patent but this limitation is in all of the
11 claims. It says the moveable base station comprising a
12 transmitter configured to transmit radio frequency signals to a
13 mobile device. That limitation in conjunction with the paragraph
14 in column 6 that we were just talking about don't say anything
15 about registering with the cellular network. They just say that a
16 radio transmission would be acceptable or meet the limitations of
17 this claim.

18 MR. RHOADES: And hence the reason we want mobile
19 device construed. The patent, the Carucel patents were
20 previously discussed that the invention is say between a mobile
21 device that's communicating with the cellular network. That is
22 the invention. If you take mobile device and make it be
23 anything, a lump of coal, then the mobile device isn't going to

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1 communicate with that. So the invention is narrow. I mean
2 that's why mobile device needs to be construed because it is
3 referring to a subset of all devices and it's -- the subset is those
4 that directly communicate with the cellular network and those
5 that register with the cellular network because, as we just stated,
6 one of the major reasons or benefits of the moveable base station
7 is its ability to exist with tandem, assisting with handoff also
8 helps increase bandwidth. By taking that functionality away
9 from the phone it allows the moveable base station to have more
10 physical components that allow the handoff to occur easier to all
11 of the mobile devices in the vehicle, and we disagree with
12 Petitioner's statement that it wouldn't change anything because it
13 is only one handoff via the moveable base station. You could
14 have six or seven mobile devices on that mobile base station. So
15 it is really just one handoff, not six or seven.

16 Then again, that's what we claim that the specification as a
17 whole is setting forth the invention and that's what the District
18 Court had found. The specification is not saying a preferred
19 embodiment, but it is describing the invention as a whole. The
20 invention as a whole has to have the two parts, it has to have a
21 mobile device that's communicating with the cellular network
22 and the cellular network, otherwise it can't assist with handoffs
23 and other reasons between the mobile device that's

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1 communicating with the cellular network. If the mobile device
2 cannot communicate with the cellular network, then the
3 moveable base station doesn't have -- doesn't improve the
4 handoff because there is nothing to hand off, especially when
5 you keep in mind since 1995 the laptops and iPads and all that
6 did not communicate by Wi-Fi like they do today.

7 JUDGE GIANNETTI: So counsel --

8 MR. RHOADES: So if the Wi-Fi was in a vehicle in 1995
9 it wasn't --

10 JUDGE GIANNETTI: Counsel.

11 MR. RHOADES: -- communicating with the network and a
12 moveable base station wouldn't have been sending any sort of
13 communication regardless of what radio transmission there
14 would have been to your laptop because your laptop wasn't
15 connected to the moveable base station because it was not
16 connected to the cellular network unless it had functionality in
17 the laptop that allowed it to communicate with the cellular
18 network directly and if that's the case it had to register, and the
19 reason it has to register so the cellular network knows that that
20 mobile device is in its cell. Without the registration the cellular
21 network does not know that that mobile device is in its cell and
22 won't transmit and send out to the moveable base station the
23 signal intended for that mobile device.

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1 Just real quickly if I could, I wanted to address the -- and I
2 do apologize, I'm not sure who provided me this question -- but
3 they wanted to talk about the summary of the invention and the
4 portable device. You know, we note that during that appeal that
5 was dealing with claims that had claim terms that were dealing
6 with, sorry, independent motions and none of that is in any of the
7 claim terms that we have today or any of the disputed patents.

8 So (indiscernible) --

9 JUDGE GIANNETTI: Well why would that make a
10 difference though? Why would that make a difference in the
11 representation that you seem to have made about what kinds of
12 mobile units might be comprehended by this invention?

13 MR. RHOADES: Right. And again if you --

14 JUDGE GIANNETTI: Minus the relative motion. I mean I
15 agree that the relative motion seems to be an important aspect of
16 the disclosure which doesn't seem to be entering into the claim
17 constructions we've been talking about. Why is it that that's
18 important, relevant motion, relative motion?

19 MR. RHOADES: I see what you're talking about.

20 JUDGE GIANNETTI: Relative motion.

21 MR. RHOADES: Between the moveable base station and
22 the mobile unit?

23 JUDGE GIANNETTI: Yes.

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1 MR. RHOADES: The invention absolutely encompasses
2 the idea of having a movable base station in one vehicle and a
3 mobile unit in another, but there is nothing in the patent and the
4 patent itself that precludes having the mobile device and the
5 moveable base station in the same vehicle, and in fact you could
6 have it in a vehicle and you're moving inside the vehicle while,
7 and which is different -- a different movement than the base
8 station is moving so I think that's another reason why they had
9 comparable in there because if, you know, your base station's in
10 a bus and you're walking from one part of the bus to another part
11 of the bus you are certainly not travelling at the exact same
12 speed as a moveable base station but you're travelling at a rate
13 comparable to the moveable base station.

14 JUDGE GIANNETTI: I see. So that's how you interpret
15 that. But just to come back to the question that I believe was
16 asked, and that is you said that the, referring to the prosecution
17 history and the argument that was made in the appeal brief that
18 the context was different because the claims that were before the
19 Office in that case involved relative motion of the mobile unit;
20 did I get that right?

21 MR. RHOADES: If we can go to slide 31.

22 JUDGE GIANNETTI: Is that the slide?

23 MR. RHOADES: I was meaning to address a question that

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1 had been set forth to me and I'm not sure I fully understood. The
2 question was dealing with a portable device I think in an elevator
3 which I think was the prior art reference that was being dealt
4 with on appeal; is that correct? And I was trying to answer it
5 that way and if I (indiscernible) --

6 JUDGE GIANNETTI: But why would that issue, assuming
7 that that's true and that was what the intent was of that remark,
8 but what did that issue have to do with the issue of what the
9 scope of what a mobile unit might be, have to do with whether it
10 was being used in an elevator or not? I don't see how those two
11 things are related.

12 MR. RHOADES: I agree wholeheartedly with you but I
13 believe that that was the question to me. I didn't think it is the --
14 the question that comes up is if you look on slide 31 as at the
15 beginning of the summary of the invention the Applicant at the
16 time stated the moving mobile unit such as telephones, radio
17 modems, and other types of radios, and I believe the Petitioner is
18 trying to use this to counteract the repeated and the claim
19 meaning was stated in the specification for mobile unit. But
20 again, at the time of -- you have to go back and look at 1995 and
21 the invention is all these things work if they directly
22 communicate with the cellular network and register with the --
23 and have the ability to register with the cellular network.

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1 JUDGE GIANNETTI: But let me restate the question --

2 MR. RHOADES: Okay.

3 JUDGE GIANNETTI: -- and I'll ask it in a more direct
4 way. Why should we disregard those statements that were made
5 in the prosecution history in the context of the appeal brief about
6 the scope of what types of mobile units are comprehended by the
7 disclosure that you've put forth?

8 MR. RHOADES: What I'm asking is (indiscernible) --

9 JUDGE GIANNETTI: What's your argument -- what's your
10 argument as to why we shouldn't credit what was said to the
11 Board of Appeals in that case?

12 MR. RHOADES: Right. Because mobile units, as the term
13 is used in the specification, requires direct -- the ability to
14 directly communicate with the cellular network and to register
15 with the cellular network and those --

16 JUDGE GIANNETTI: Okay. You haven't answered my
17 question though.

18 MR. RHOADES: -- (indiscernible) the mobile unit --

19 JUDGE GIANNETTI: No, you haven't answered my
20 question. Why should I ignore what was said in the prosecution
21 history?

22 MR. RHOADES: I was -- I'm not asking you to ignore.
23 Mobile units is a term that was used in the specification and it

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1 has a meaning as we set forth. Telephones that registered with
2 the cellular network and directly communicate with the network
3 weren't available. Radio modems that directly communicated
4 with the cellular network and registered with the cellular
5 network were available in 1995. Other types of radios, as we set
6 forth in our brief, were available that directly communicated
7 with the cellular network and registered with the cellular
8 network and were available in 1995. This is not intended to
9 mean a mobile unit. This is saying mobile units as set forth in
10 the past specification which over and over again is setting
11 between a mobile unit that communicates with the cellular
12 network and the cellular (phonetic) network and a subset
13 (indiscernible) --

14 JUDGE GIANNETTI: Their argument is --

15 MR. RHOADES: -- telephones, radio modems --

16 JUDGE GIANNETTI: -- so your argument is that a person
17 of ordinary skill in the art reading that statement in the
18 prosecution history would understand that the radio telephones
19 that you're referring to are not just a garden variety radio
20 telephones but those that could communicate with the cellular
21 network; is that your position?

22 MR. RHOADES: I believe a person of ordinary skill in the
23 art would have read the specification and would have understood

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1 that that was the meaning to mobile unit and when they read that
2 they would understand that it's referring to those type of mobile
3 units are referring to those that communicate with the cellular
4 network, yes.

5 JUDGE GIANNETTI: Okay, thank you.

6 JUDGE GALLIGAN: This is Judge Galligan. I just wanted
7 to follow up. The purpose of the question was really to talk
8 about there was a limitation in the claims at issue in the appeal
9 brief and the pending claims at that time regarding independent
10 motion and the issue was whether a portable radio phone in the
11 elevator, whether the motion would be independent between the
12 phone and the elevator and the Applicant stated that they -- was
13 arguing about the independence of that but what I was
14 commenting on was the significance seems to be there was no
15 argument that portable radio phone was not a mobile unit. The
16 mobile unit appears to be sort of assumed in the appeal brief but
17 that Yokoi reference teaches a mobile unit, it's just that it doesn't
18 teach this independent motion and that's why I wanted to ask you
19 about that because, and certainly the Applicant's characterization
20 of the invention as other types of radios doesn't seem to rebut
21 that and that was the point of the question. Independent motion I
22 realize is not recited and that's kind of what I wanted to get out,
23 you know, ask you further about, meaning I would have expected

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1 the Applicant to say this isn't a mobile unit because a mobile unit
2 is a cellular phone, not -- which is what you're saying now.

3 MR. RHOADES: I had, you know, had not looked at that
4 and I really can't opine on that, especially counterpoint why the
5 Applicant made the argument it did and did not do.

6 JUDGE GALLIGAN: That's fair enough, no, and I, you
7 know, I think we're just trying to come from it from the
8 standpoint of, you know, we do have to look at the prosecution
9 history and, you know, and Microsoft v. Proxyconn tells us that
10 and this is also Phillips construction so it's very important, and it
11 is hard to disregard statements like that and there, you know,
12 there was a representation to the Office of a, you know, some
13 people would say maybe a broader interpretation than just a cell
14 phone now and that's kind of where we're coming from but I
15 appreciate your position and, you know, I don't want you to
16 speculate on what someone was doing. Thank you.

17 JUDGE GIANNETTI: Okay. You have about 20 minutes
18 left.

19 MR. RHOADES: Okay. Given that I've taken up so much
20 time again for everyone else, I would like to now pass this off to
21 -- is Mr. Warren going to speak next? Mr. Warren's going to
22 speak next. Thank you, Your Honors.

23 MR. WARREN: Hello, this is Stanford Warren. Can

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1 everyone hear me?

2 JUDGE GIANNETTI: I can hear you well.

3 MR. WARREN: Okay. Well my video's not showing, at
4 least on my screen but.

5 JUDGE GALLIGAN: We can see you and hear you.

6 JUDGE KORNICZKY: Yes, this is Judge Korniczky. We
7 can see you and hear you so don't worry, you can continue with
8 your argument.

9 MR. WARREN: Okay, thank you. I'm going to be very
10 quick. I just wanted to turn to slide 193 and I wanted to address
11 just a couple of comments about the Vercauteren reference that
12 my colleague, the Petitioner made and that is if you look at
13 figure 5 of Vercauteren the mobile terminal that does most of the
14 work is TMT/DMT. It connects to three different kinds of relay
15 station, the FFRS, FRRS or the RRS. Of those only the roaming
16 relay station is one that has any ability of those to be moving.
17 That particular relay station does not have any base function,
18 base station real functionality. It's very limited.

19 Slide 247, please. It is purposely limited to the minimum
20 intelligence that Vercauteren was teaching and as a result it's not
21 capable of selecting any optimal communications path, okay, and
22 it repeatedly disclosed that function of selecting the optimal
23 communication paths is actually performed by a fixed base

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1 station, not a mobile station, not the relay station. For example,
2 in column 2, lines 23 to 31, it says the fixed base station can
3 then provide the complex control functions such as handover
4 decisions for such an environment.

5 Slide 248, please. It also says the fixed base station at the
6 FBS1 then implements the last two steps of the hand-over
7 protocol, i.e., making and executing the hand-over decision and
8 therefore the decision step consists in selecting, on the basis of
9 data selected to receive communication tree, an active set
10 including the optimal communications path, for instance based
11 on a minimal Overall Bit Error Rate and a redundant set of
12 communication paths including the most likely candidates for
13 future hand-overs. My point is that does not reveal or show that
14 the roaming relay station has any ability whatsoever to act as a
15 true moving base station and with that I am going to now
16 concede the remainder of my time to my colleague, Mr. Smith.

17 MR. SMITH: Can everybody see and hear me okay?

18 JUDGE GIANNETTI: I can't see you, I can hear you.

19 MR. SMITH: Can everybody hear me okay?

20 JUDGE GIANNETTI: Yes, we can hear you.

21 MR. SMITH: All right. Can everybody hear me okay?

22 JUDGE GIANNETTI: We can hear you, yes.

23 MR. SMITH: Thank you. All right. First, I would like to

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1 address the comments with respect to Ito and I would refer you
2 to slide 129 and I'll also reference Exhibit 1005 and figures 1, 2
3 and 3. What you'll see on 129 is that there is no disclosure in
4 figures 1, 2 and 3 when it talks about who's communicating with
5 who. Every time the signal goes to and from the base station and
6 the mobile station the FR1 and the FT1 and then every other
7 communication is from the mobile station to the portable device,
8 the PSS device which is FTA and FRA. So what it doesn't depict
9 is it never shows anywhere in figures 1, 2 and 3 discussing what
10 they're contesting is the preferred embodiment. It never shows
11 any direct communication between the PSS and the base station
12 because it doesn't exist. There is no such direct communication,
13 and the reference that was cited was to column 3 and in lines 31
14 to 32, it's actually not discussing Ito, it's discussing the status of
15 the prior art in that you had portable devices that you had to take
16 out of the car to make work but the important part of that is the
17 last part of that sentence that says, "in order to make it operable
18 relative to a matching telephone main unit in the car." So once
19 again, it has to go through the mobile station in the car. You
20 can't walk away from that car to another car and have it directly
21 communicate. So Ito doesn't disclose this capability contrary to
22 what was said.

23 Another thing that I want to make a point on is CDMA isn't

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1 a monolithic technology that it's the same and it's applied in its
2 fullness in every instance. The CDMA system being utilized in
3 Gilhousen865 is not identical to the CDMA system being utilized
4 in Gilhousen390. If it was it wouldn't work for all the reasons
5 we previously explained while Gilhousen390 is limited to less
6 than 50 miles an hour and I notice that in Volkswagen's argument
7 they want to say hey, the example we gave you was stall speed
8 for the Cessna 152 and that was below 150, but there are lots of
9 others that would have shown something less. They didn't show
10 you those. They didn't supplement with them. They didn't show
11 them to you. You haven't seen them. We haven't had a chance
12 to respond to them. For all I know they're all stall speeds too.
13 What I do know is that the man had had perhaps more wireless
14 patents at this time than anybody else. He didn't think they
15 worked together and Mr. Lanning, who's been in this field for
16 dozens of years says they won't work and that's the best evidence
17 that I think we have is Mr. Gilhousen and Mr. Lanning who were
18 in here and the fact that there is no patent in all the efforts.
19 Your Honors are right and Volkswagen's counsel said this.
20 Perhaps the most important issue in this whole case is this
21 mobile capability of servicing mobile devices which can register
22 with and directly communicate and if this FDMA/390
23 combination worked with the 865 you would have seen it. They

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1 would have found an art reference, they would have found a
2 patent. They would have found something to show you other
3 than having an expert say, who isn't building these devices, who
4 wasn't trying to make them work in this time frame, saying oh,
5 you could have done it. You would see it. You don't see it. It
6 does not work.

7 They make the reference with respect to an ITU document
8 and say, and this was -- and I didn't get a chance to get into it --
9 but it's in full context in our briefing incompatibility of TDMA,
10 FDMA with CDMA and they pulled the reference from an ITU
11 document and this is at page 15 through 16 of our reply and they
12 try to say well, it mentions code division multiple flexing and
13 what Mr. Lanning testified to on that was what was being --
14 strike that, let me start over.

15 Volkswagen's lawyer brought up this argument and
16 questioned Mr. Lanning about it in what appeared to be "we
17 think we have a gotcha moment" and they said look, you testified
18 in this other case and in this other case you referred to a
19 document that was an ITU document and that ITU document
20 when talking about CDMA, mentions time division multiple
21 access. Well, what Mr. Lanning told them that they omit from
22 their briefing to you is that when that ITU document is talking
23 about time division, multiple access, it's not really meaning time

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1 division multiple access, it's describing time division
2 multiplexing as that is a component of a CDMA system. So they
3 understood that it is a TDMA in the sense that Ito's disclosing it,
4 it's time division multiplexing and they found an acronym to try
5 and make it look like Mr. Lanning thought they worked together.
6 That's not what that document does.

7 Is there any particular question that the Board has that
8 needs further illumination on?

9 JUDGE GIANNETTI: Yes, Mr. Smith. Can we go back to
10 that column 6 of the 023 patent since we're on the subject of
11 TDMA and CDMA?

12 MR. SMITH: (Indiscernible.)

13 JUDGE GIANNETTI: It's the 023 patent, I'm at line 51.

14 MR. SMITH: Right.

15 JUDGE GIANNETTI: And it talks about the interface
16 between the moving base stations and the fixed radio ports. It's
17 preferably a time division, multiplexed direct sequence, spread-
18 spectrum, code-division, multiple access interface TDM/CDMA.

19 MR. SMITH: Uh-huh, yes.

20 JUDGE GIANNETTI: Can you explain what your
21 understanding is? Doesn't that suggest the combination of time
22 division and code-division multiple access?

23 MR. SMITH: It is referring, you'll see there it talks about

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1 time division multiplexing and time division multiplexing, just
2 like Mr. Lanning testified to in his declaration and was in our
3 reply at the previous (indiscernible) is not the same thing as an
4 FDMA/TDMA system. This gets back to what we were talking
5 about CDMA is not monolithic and sometimes these acronyms
6 can get you in trouble. It's not -- that's not a reference to a
7 combined TDMA/CDMA system. It's referring once again to the
8 time division multiplexing which is part of CDMA, not the
9 separate technology of TDMA.

10 JUDGE GIANNETTI: All right. Thank you. And just one
11 other question. I want to go back to your -- I think there were
12 five different, I'm looking for the slide -- there were like five
13 different, this is on the mobile device construction. I recall there
14 were like five different requirements that you see as to what it
15 must do -- oh, here it is. I'm on your slide --

16 MR. SMITH: Slide 22.

17 JUDGE GIANNETTI: -- slide 22, yes, okay. Okay. A
18 mobile device must be able to directly communicate with the
19 cellular network, must be able to communicate with the cellular
20 network indirectly by communicating with a mobile base station,
21 must be able to register with the cellular device network and
22 must be able to move freely between the mobile base stations,
23 those four requirements. Now I understand your position to be

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1 that the prior art that's been cited in this proceeding doesn't have
2 these -- the mobile devices that are disclosed there or at least the
3 communication devices don't have these four characteristics; is
4 that right? That's your basic position?

5 MR. SMITH: That's correct.

6 JUDGE GIANNETTI: None of them have. I think that's
7 pretty much, pretty clear to us. Now, is it your position that
8 such devices didn't exist in 1995 or just that the prior art that's
9 been cited doesn't disclose them?

10 MR. SMITH: I'm not aware of any such argument
11 (phonetic) existing and they didn't find any and I'm not aware of
12 any they could have cited.

13 JUDGE GIANNETTI: But what about a standard cell
14 phone? Wouldn't that fit this? It can directly communicate with
15 the cellular network. It is capable of communicating with the
16 moving base station. It's able to register with the cellular
17 network and it's freely -- and it can move freely between mobile
18 base stations.

19 MR. SMITH: Right. Do you mind if I --

20 JUDGE GIANNETTI: Isn't that the definition of a cell
21 phone?

22 MR. SMITH: It is and let me turn to slide 6 just a second
23 because I think --

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1 JUDGE GIANNETTI: And those were available in 1995,
2 weren't they?

3 MR. SMITH: They were, but here's my point. Back to
4 slide 6 if you don't mind. Do you mind turning to slide 6 real
5 quick?

6 JUDGE GIANNETTI: Okay.

7 MR. SMITH: So that's exactly what we're saying. What
8 we're saying is the invention of Carucel was designed to provide
9 capability to that standard cell phone you just referenced that
10 nothing else was able to do and so what it did was that apparatus
11 provided a path that your cell phone could connect to and
12 because maybe you have those five or six devices connected to
13 that one base station it frees up available bandwidth so you get
14 better quality signals between the cell phone and the fixed port
15 station. That's what that moving apparatus is doing and there
16 were no moving apparatuses that existed in 1995 which let a cell
17 phone get those benefits because they hadn't been invented.
18 That's what the Carucel invention is. It allows those cell phones
19 -- if you have five cell phones in a car and you're driving down
20 the road it lets all of them utilize the moving base station and the
21 moving base station does the handoffs for them so with five
22 handoffs there's only one so you're consuming less bandwidth so
23 you have greater data bandwidth and greater quality because

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1 when you transition from cell to cell, those five devices are
2 making one handoff instead of five individual devices having to
3 make five handoffs.

4 JUDGE GIANNETTI: So I think what you're saying, and
5 correct me if I'm wrong, that the invention here is having a
6 mobile base station as defined in the claims which works with a
7 cell phone.

8 MR. SMITH: Yes, that's absolutely 100 percent it. That's
9 exactly right and none of the other devices they've disclosed
10 worked with the cell phone to extend its functionality. That's
11 100 percent our point.

12 JUDGE GIANNETTI: Okay. Thank you very much. All
13 right. Well you have some time remaining. Anything further?

14 MR. SMITH: I could answer questions but if there are no
15 questions I'm happy to yield back.

16 JUDGE GIANNETTI: All right. Let me check with the
17 panel. Judge Galligan, Judge Korniczky, anything further before
18 we close out?

19 JUDGE GALLIGAN: I have nothing further. Judge
20 Galligan.

21 JUDGE GIANNETTI: Okay.

22 JUDGE KORNICZKY: Yes, this is Judge Korniczky. I
23 have nothing further.

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1 JUDGE GIANNETTI: Okay, thank you counsel for a very
2 careful and thorough presentation, and your case is submitted,
3 and we are adjourned. Thank you very much.

4 (Whereupon, at 4:30 p.m., the oral hearing was
5 concluded.)

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