

EXHIBIT C

UNITED STATES DISTRICT COURT
 DISTRICT OF MASSACHUSETTS
 SKYHOOK WIRELESS, INC.,
 Plaintiff,
 vs. Case No.: 1:10-cv-11571-RWZ
 GOOGLE, INC.,
 Defendant.

GOOGLE, INC.,
 Counterclaim-Plaintiff,
 vs.
 SKYHOOK WIRELESS, INC.,
 Counterclaim-Defendant.

VIDEOTAPED DEPOSITION OF ANTHONY S. ACAMPORA, Ph.D.
 San Diego, California
 Thursday, September 22, 2011
 Volume 1

Reported by:
 Claire A. Wanner
 CSR No. 12965, RPR
 Job No. 172844

1 APPEARANCES:
 2
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 12 Also Present: Daniel Payan, Videographer
 13 Mark Zavislak, Google
 Jennifer Polse, Google

1 UNITED STATES DISTRICT COURT
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 3 SKYHOOK WIRELESS, INC.,
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 9 Counterclaim-Plaintiff,
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 11 SKYHOOK WIRELESS, INC.,
 12 Counterclaim-Defendant.

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 15
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 17 Videotaped deposition of ANTHONY S. ACAMPORA,
 18 Ph.D., Volume 1, taken on behalf of Plaintiff, at
 19 402 West Broadway, Suite 900, San Diego, California,
 20 beginning at 9:07 a.m., and ending at 5:41 p.m. on
 21 Thursday, September 22, 2011, before Claire A. Wanner,
 22 Certified Shorthand Reporter No. 12965, RPR.
 23
 24
 25

1 I N D E X
 2 WITNESS: Anthony S. Acampora, Ph.D.
 3
 4 EXAMINATION PAGE
 5 BY MR. LU 7
 6
 7 E X H I B I T S
 8 MARKED FOR PLAINTIFF PAGE
 9 Exhibit 1 Document entitled "United States Patent No.: US 7,414,988 B2" dated August 19, 2008; 20 pages 8
 10
 11 Exhibit 2 Document entitled "United States Patent No.: US 7,433,694 B2" dated October 7, 2008; 20 pages 8
 12
 13 Exhibit 3 Document entitled "United States Patent No.: US 7,305,245 B2" dated December 4, 2007; 20 pages 8
 14
 15 Exhibit 4 Document entitled "United States Patent No.: US 7,474,897 B2" dated January 6, 2009; 14 pages 8
 16
 17 Exhibit 5 Document entitled "Declaration of Anthony S. Acampora., PH.D." dated September 14, 2011; 66 pages 8
 18
 19
 20 Exhibit 6 Document entitled "Exhibit 1" dated September 14, 2011; 48 pages 8
 21
 22 Exhibit 7 Document entitled "Declaration Of Susan Baker Manning In Support of Google Inc.'s Motion For Summary Judgment Of Indefiniteness And, In The Alternative, Opening Claim Construction Brief" dated September 14, 2011; six pages 22
 23
 24
 25

1 (Index Continued)
 2 Exhibit 8 Document entitled "Exhibit 7" 72
 3 dated September 14, 2011; four
 4 pages
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1 San Diego, California; Thursday, September 22, 2011
 2 9:07 a.m. - 5:41 p.m.
 3
 4 THE VIDEOGRAPHER: Good morning. Here begins
 5 Media No. 1 of the deposition of Anthony S. Acampora,
 6 Ph.D., in the matter of Skyhook Wireless, Incorporated,
 7 versus Google, Incorporated.
 8 This case is in the United States District
 9 Court, District of Massachusetts, and the civil action
 10 number is 1;10-CV-11571-RWZ.
 11 Today's date September 22nd, 2011. The time
 12 is 9:08 a.m. This deposition is taking place at
 13 Sarnoff, 402 West Broadway, Suite 900, San Diego,
 14 California 92101. This deposition is taken on behalf
 15 of the plaintiffs. The videographer is Daniel Payan,
 16 appearing on behalf of Sarnoff Court Reporters & Legal
 17 Technologies, located in San Diego, California.
 18 All present, please take notice that as a part
 19 of videotaping of this deposition, very sensitive
 20 high-quality microphones are being used. If anyone
 21 present wishes to make a statement off the record, they
 22 should state that they are going off the record and
 23 gain concurrence from all parties. The videographer
 24 will then stop recording. All recorded comments made
 25 by anyone present during this deposition will be

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1 assumed to be on the record and will be transcribed.
 2 Would counsel at this time please identify
 3 yourselves and state whom you represent.
 4 MR. LU: Samuel Lu of Irell & Manella for
 5 Skyhook Wireless.
 6 MS. SOMAIT: Lina Somait, Irell & Manella for
 7 Skyhook Wireless.
 8 MR. BERTIN: Robert Bertin with
 9 Bingham McCutchen for Google.
 10 MS. POLSE: Jennifer Polse of Google.
 11 MR. ZAVISLAK: And Mark Zavislak of Google.
 12 THE VIDEOGRAPHER: Thank you. At this time
 13 the court reporter may swear in the witness.
 14
 15 ANTHONY S. ACAMPORA, PH.D.,
 16 having been administered an oath, was examined and
 17 testified as follows:
 18
 19 EXAMINATION
 20 BY MR. LU:
 21 Q. Good morning, Dr. Acampora.
 22 A. Good morning.
 23 MR. LU: Before we begin, I think I want to
 24 take care of a little bit of housekeeping. I have some
 25 exhibits that I'd like to mark.

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1 Exhibit 1 will be U.S. Patent No. 7414988.
 2 (Exhibit 1 was marked.)
 3 MR. LU: Exhibit No. 2 will be U.s. Patent No.
 4 7433694.
 5 (Exhibit 2 was marked.)
 6 MR. LU: Exhibit No. 3 will be U.S. Patent No.
 7 7305245.
 8 (Exhibit 3 was marked.)
 9 MR. LU: Exhibit No. 4 will be U.S. Patent No.
 10 7474897.
 11 (Exhibit 4 was marked.)
 12 MR. LU: Exhibit No. 5 will be a document
 13 entitled, "Declaration of Anthony S. Acampora, Ph.D."
 14 (Exhibit 5 was marked.)
 15 MR. LU: And Exhibit 6 will be a document that
 16 is labeled Exhibit 1, which I will represent to you is
 17 an Exhibit 1 attached to the declaration of
 18 Anthony S. Acampora, Ph.D.
 19 (Exhibit 6 was marked.)
 20 BY MR. LU:
 21 Q. So Dr. Acampora, could you please state your
 22 full name for the record?
 23 A. Anthony Acampora.
 24 Q. And what is your present business address?
 25 A. I have two. I'm professor of electrical

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1 computer engineering emeritus at UCSD, and my address
 2 there is Room 6606, 9500 Gillman Drive, Mail Stop 0407,
 3 La Jolla, California 92093.
 4 I also operate out of my home -- my consulting
 5 business -- and my home address is 6473 Avenida Cresta,
 6 La Jolla, California 92037.
 7 Q. What is your current occupation?
 8 A. I do two things. As I mentioned, I'm a
 9 professor at UCSD emeritus. So what that means is
 10 three years ago, I resigned -- I retired from UCSD. I
 11 resigned my tenured faculty line. I remain on faculty
 12 emeritus. I teach electively. I supervise
 13 Ph.D. students and conduct research electively.
 14 I also provide outside consulting, separate
 15 and distinct from what I do at the university.
 16 Q. And that is the consulting firm that you
 17 referred to previously?
 18 A. That is correct.
 19 Q. Are you the only employee of that consulting
 20 firm?
 21 A. Myself and my wife.
 22 Q. And what does your wife do in connection with
 23 that consulting firm?
 24 A. She basically is the office manager.
 25 Q. All right. So Dr. Acampora, have you ever

1 been deposed before?
 2 A. I have.
 3 Q. How many times?
 4 A. Ballpark estimate, approximately 50.
 5 Q. And when was the -- and -- and were those 50
 6 depositions in connection with your consulting
 7 business?
 8 A. Essentially, all of them were, yes.
 9 Q. Have you ever been deposed as a fact witness
 10 in any case?
 11 A. I was.
 12 Q. How many times?
 13 A. Twice.
 14 Q. What were the circumstances, generally, of
 15 those?
 16 A. Well, one was a -- a -- a -- a personal
 17 matter. And second, I was engaged as a fact witness in
 18 a patent litigation matter.
 19 Q. What was the patent at issue in the patent
 20 litigation matter, if you recollect?
 21 A. It was so long ago, I'm not sure I can recall.
 22 My involvement was very brief. And as it turns out, I
 23 had access to records that were made while I was on the
 24 faculty at Columbia University that apparently were
 25 relevant in this matter. So I was called to testify.

1 Q. Have you ever testified at trial?
 2 A. I have.
 3 Q. And how many times?
 4 A. Five or six. And I'd have to look at my CV to
 5 give you an exact number or sit and try to recall.
 6 Five or six times.
 7 Q. Have you ever testified at Markman hearing?
 8 A. I have.
 9 Q. How many times?
 10 A. Well, when you say "testified at Markman
 11 hearing," can I distinguish offering opinions from
 12 offering tutorials, or would you regard those to be the
 13 same?
 14 Q. Sure. Why don't we break that up into two.
 15 Have you testified at tutorials before?
 16 A. I have.
 17 Q. How many times?
 18 A. Four or five times. And again, I would need
 19 to refer to a list to give you an exact number.
 20 Q. Okay. And have you testified at Markman or
 21 claim construction hearings?
 22 A. I have.
 23 Q. And how many times?
 24 A. Probably three or four times.
 25 Q. Other than trial, Markman hearings, and

1 tutorials, have you testified in any other proceedings?
 2 A. You mean in court?
 3 Q. In court.
 4 A. Not that I can recall.
 5 Q. Have you ever testified in any summary
 6 judgment proceedings?
 7 A. No.
 8 Q. Have you personally been involved in a lawsuit
 9 or other legal proceeding?
 10 A. Separate and distinct from providing testimony
 11 as an expert?
 12 Q. Correct. Personally involved.
 13 A. I was.
 14 Q. Okay. And generally what was the circumstance
 15 of that case?
 16 A. It was a personal injury matter. My daughter
 17 and I were -- were injured as a result of an accident
 18 that took place in our home.
 19 Q. Now, obviously, you've been involved in quite
 20 a few depositions. But just to make sure that there
 21 are no misunderstandings today, I want to review a few
 22 of the ground rules relating to depositions before we
 23 go any further, if that's okay with you?
 24 A. It's fine.
 25 Q. Okay. You understand that you're here today

1 under oath?
 2 A. I do.
 3 Q. And you understand that the oath has the same
 4 effect as if you were testifying in a court of law?
 5 A. I do.
 6 Q. And you understand that you're obligated to
 7 tell the truth to the best of your ability?
 8 A. I do.
 9 Q. Now, you understand that the testimony you
 10 give today may be read or shown by videotape to a judge
 11 or a jury?
 12 A. That's my understanding.
 13 Q. Okay. Now, in this deposition I'm going to
 14 ask you a series of questions to find out more about
 15 the opinions that you provided in your expert
 16 declaration.
 17 I'd like you to give you -- give us your best
 18 understanding and recollection of the matters that I've
 19 asked you about. Will you do that?
 20 A. I will.
 21 Q. Now, if there's a question that I ask at any
 22 time that you do not hear or do not understand, please
 23 ask me to restate the question. You've already done
 24 that a few times, but I just want to make sure that
 25 you'll do that again.

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1 Will you do that?
 2 A. I will.
 3 Q. And you understand that if you need a break at
 4 any time, you can ask for a break, and we'll take a
 5 break?
 6 A. Sure.
 7 Q. Is there any physical reason why you would not
 8 be able to give your full and truthful testimony today?
 9 A. No.
 10 Q. And did you bring any documents with you here
 11 today?
 12 A. I brought my declaration.
 13 Q. You brought your declaration.
 14 Anything else other than the declaration?
 15 A. Declaration and a bunch of attachments.
 16 Q. Did you prepare any notes or markings in that
 17 declaration?
 18 A. No.
 19 Q. So Dr. Acampora, how were you contacted in
 20 connection with this case?
 21 A. I believe that Mr. Bertin originally contacted
 22 me -- that's my recollection -- earlier on this year,
 23 as best I can recall.
 24 Q. And have you worked with Mr. Bertin before?
 25 A. No.

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1 Q. Have you worked with Mr. Bertin's firm before?
 2 A. No.
 3 Q. Did Mr. Bertin contact you out of the blue?
 4 Let me rephrase that.
 5 How were you contacted by Mr. Bertin?
 6 A. By phone.
 7 Q. And Mr. Bertin contacted you directly?
 8 A. That's my recollection, yes.
 9 Q. When did you first meet with or speak with
 10 Mr. Bertin, just ballpark?
 11 A. Well, again, this is going back probably to
 12 the January/February time frame. And I don't know if
 13 we first spoke by phone, then met face to face, or if I
 14 first spoke with Mr. Bertin -- I -- I believe we spoke
 15 by phone, then we met face to face.
 16 Q. Okay. Have you met with anyone else from
 17 Mr. Bertin's firm?
 18 A. No.
 19 Q. Have you spoken with anyone else from
 20 Mr. Bertin's firm?
 21 A. I have.
 22 Q. And with whom have you spoken?
 23 A. Audry Lowe, I believe her name is.
 24 Audry Lowe.
 25 Q. Okay. Anyone else?

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1 A. Susan Manning.
 2 Q. And anyone else other than Audry Lowe,
 3 Susan Manning, and Mr. Bertin?
 4 A. At Mr. Bertin's firm? No.
 5 Q. No. Have you spoken with anyone from Google
 6 in connection with this matter?
 7 A. I have.
 8 Q. And with whom have you spoken?
 9 A. John Lebar, who, I believe, is an attorney
 10 employed by Google.
 11 Q. Okay. Anyone other than John Lebar?
 12 A. Well, the two people at the end of the table
 13 here, yesterday.
 14 Q. Okay. And you -- have you met with any of
 15 those individuals other than from Google -- let me
 16 rephrase that.
 17 Have you met with individuals from Google face
 18 to face other than the two individuals at the end of
 19 the table?
 20 A. I met with Mr. Lebar.
 21 Q. Okay. Have you been -- have you done any
 22 previous work for Google?
 23 A. No. The reason I'm hesitating is some of the
 24 litigation I've been involved in has involved multiple
 25 defendants, and I don't know if Google might have been

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1 one of the defendants in one of these
 2 multiple-defendant matters. But I was not engaged by
 3 Google, as near as I can recall, in any of these
 4 matters.
 5 Q. So in connection with this matter, how much
 6 are you being paid?
 7 A. \$600 an hour, which is my customary rate.
 8 Q. And to date how much have you billed?
 9 A. Ballpark estimate, about \$20,000. That might
 10 be a little bit on the high side, but that's -- that's
 11 probably a good estimate.
 12 Q. Okay. Ballpark, what percentage of your total
 13 annual income comes from consulting as an expert
 14 witness?
 15 A. Well, that's varied over the years. But if
 16 you're asking --
 17 Q. Presently.
 18 A. -- presently, 60 to 70 percent.
 19 Q. And how much have you made over the past two
 20 years in terms of expert witness consulting --
 21 ballpark?
 22 A. Well, I don't want to assume that you mean
 23 paid to my consulting company as opposed to paid to me
 24 in salary from my consulting company.
 25 Q. Well, how is your consulting company

1 A. Under \$100,000.
 2 Q. So please describe what you've done since
 3 you've been retained by Mr. Bertin's firm in connection
 4 with this litigation?
 5 MR. BERTIN: I'm just going to state on the
 6 record that Dr. Acampora is being offered as a witness
 7 on claim construction.
 8 MR. LU: So noted.
 9 THE WITNESS: I read the patents. I read the
 10 prosecution history. I had numerous telephone
 11 conversations with Mr. Bertin. I attended a
 12 face-to-face meeting with Mr. Bertin and Mr. Lebar, and
 13 I prepared my report -- my declaration.
 14 BY MR. LU:
 15 Q. Okay. Did you speak to any individuals other
 16 than the employees at Google and the employees at
 17 Bingham that you've identified today in connection with
 18 your work on this matter?
 19 A. No.
 20 Q. Did you do any prior art searches in
 21 connection with your work on this matter?
 22 A. No.
 23 Q. Did you look at any Google products or
 24 services in connection with your work on this matter?
 25 A. No.

1 structured, first of all?
 2 A. It's a C corporation.
 3 Q. Okay. And who's the owner of the consulting
 4 company?
 5 A. My wife and I are co-owners.
 6 Q. So let's break that question into two.
 7 How much money has your corporation received
 8 in the past two years from expert consulting work that
 9 you have done?
 10 A. Ballpark figure, it's probably been 1.5 to
 11 \$1.6 million.
 12 Q. And that's for both --
 13 A. That's over a two-year period.
 14 Q. -- over a two-year period?
 15 A. Yes.
 16 Q. Okay. And how much have you been paid
 17 personally from your corporation for the work that
 18 you've done on behalf of that corporation relating to
 19 expert consulting work?
 20 A. Okay. So I'm taking that question to mean,
 21 what was I paid in salary from my corporation over the
 22 past two years. And it's probably in the range of
 23 \$600,000.
 24 Q. How much has your wife been paid from the
 25 corporation over the past two years?

1 Q. Did you look at any Skyhook products or
 2 services in connection with your work on this matter?
 3 A. No.
 4 Q. Have you heard of the patent in suit prior to
 5 your work on this matter?
 6 A. No.
 7 Q. Had you heard of Skyhook Wireless prior to
 8 your work on this matter?
 9 A. No.
 10 Q. Had you -- were you aware of Google location
 11 services prior to your work on this matter?
 12 A. In passing, yes.
 13 Q. And what do you mean by "in passing"?
 14 A. Well, I know that they're -- as an example, on
 15 my iPhone I could -- or on my laptop -- I can certainly
 16 go to Google map. But my awareness of any location
 17 services that might be provided by Google are -- are --
 18 are -- are really not any deeper than that.
 19 Q. Now, Dr. Acampora, I assume that you received
 20 a copy of a subpoena asking you to appear here today
 21 for the deposition, correct?
 22 A. I was aware there was such a subpoena, and I
 23 actually saw that subpoena yesterday.
 24 Q. And were you -- did you see a second
 25 subpoena -- or perhaps the same subpoena -- directed

1 towards asking you to produce documents in connection
2 with your expert declaration?
3 A. I did yesterday. But I was informed
4 earlier -- I believe it was earlier this week -- that I
5 was to produce all of the material I relied on, which I
6 did.
7 Q. Okay. And what were the -- the materials that
8 you relied on, those were produced to Mr. Bertin?
9 A. I believe so.
10 MR. LU: Okay. And Mr. Bertin, I just want a
11 representation that all of materials that Dr. Acampora
12 relied upon were, in fact, produced to us as part of, I
13 guess, the declaration of Susan Baker Manning.
14 MR. BERTIN: Yes. That's -- that's correct.
15 BY MR. LU:
16 Q. Okay. Have you seen the declaration of
17 Susan Baker Manning?
18 A. I did.
19 Q. And were there any materials that you relied
20 upon that were not in the declaration of
21 Susan Baker Manning?
22 A. Oh, I would need to look at that declaration
23 to answer that question.
24 Q. Sure. We'll pull that out.
25 Were there documents -- did you look at any of

1 and let me know if there are any documents that you
2 relied upon in connection with your expert report --
3 your expert declaration -- excuse me -- that are not
4 listed in this declaration.
5 A. I believe that the answer to your question is
6 no. But to totally confirm that, I would need to look
7 at my own declaration to see if there's any -- and --
8 and do some sort of a -- a cross check between what's
9 in my declaration and what's in Ms. Manning's
10 declaration.
11 Q. Okay. But sitting here right now, you not
12 aware of anything that's listed in -- that's listed in
13 your expert report? Well, let me strike that question.
14 So your expert report lists all of the
15 materials that you relied upon in the preparation of
16 that expert report?
17 A. I believe that's the case.
18 Q. Okay. And just to make things clear, since
19 both of us have been referring to your expert
20 declaration --
21 A. Declaration.
22 Q. -- as an expert report, for the purposes of
23 this deposition, if we refer to your expert report, it
24 will be understood that we're referring to your expert
25 declaration, Exhibit No. 5.

1 the dictionary definitions that were provided by
2 Skyhook as part of the claim construction process?
3 A. Not that I can recall.
4 Q. Okay. So I'd like to have marked as
5 Exhibit No. 7 the declaration of Susan Baker Manning --
6 A. Can I back up for a second just to be sure
7 that I answered that previous question correctly?
8 I'm assuming you mean as part of the
9 preparation of my declaration? Answer: No. Have I
10 seen -- have I subsequently seen dictionary definitions
11 that were produced by Skyhook? Probably, because I did
12 look at Skyhook's claim construction brief after it was
13 filed.
14 Q. But prior to the filing of your declaration,
15 you did not review any of the dictionary definitions
16 provided or produced by Skyhook in this litigation?
17 A. That's correct.
18 MR. LU: Do we have the exhibit stickies?
19 There you go.
20 BY MR. LU:
21 Q. So Dr. Acampora, I've put before you
22 Exhibit No. 7, which is the declaration of
23 Susan Baker Manning.
24 (Exhibit 7 was marked.)
25 MR. LU: Take a few moments to review this,

1 A. That's fine.
2 Q. Okay. Did you review any legal cases in
3 connection with the preparation of your expert
4 declaration?
5 A. Any legal cases?
6 Q. Any case law?
7 A. Did I -- did I personally review case law?
8 Q. Correct.
9 A. No. I was provided with instructions with
10 regard to claim construction that reproduced in my
11 declaration. And they may be referenced -- I -- I
12 would need to double-check. There may be reference to
13 case law there. There may not be, but I was provided
14 with instructions. I did not personally review any
15 case law --
16 Q. Okay.
17 A. -- with regard to the preparation of my
18 declaration.
19 Q. So let's turn to your declaration for a
20 moment. That's Exhibit No. 5. Whether you want to
21 refer to the declaration you have in front of you or
22 the actual exhibit --
23 A. This one appears to be less unwieldy.
24 Q. Fair enough.
25 So I'd like you to turn to page 26, which is

1 section Roman numeral four, "Claim Construction
 2 Principles."
 3 A. I'm there.
 4 Q. Okay. Other than paragraphs 60 and 61 of the
 5 section Roman numeral four, were these passages --
 6 these paragraphs regarding claim construction
 7 principles -- provided to you by the attorneys at
 8 Bingham?
 9 MR. BERTIN: Which paragraphs are you
 10 referring to?
 11 BY MR. LU:
 12 Q. Well, just to be clear, please review
 13 paragraphs 58, 59, and 62 through 69, which I believe
 14 correspond to claim construction principles -- the law
 15 regarding claim construction.
 16 Did you write those specific paragraphs?
 17 MR. BERTIN: So you're referring -- just to be
 18 clear, you're referring to paragraphs 58 through 63?
 19 MR. LU: No. No. I'm specific -- okay. So
 20 just to be clear, I'm excluding paragraph 60 and 61
 21 because those are paragraphs where I believe
 22 Dr. Acampora expresses his opinion.
 23 I am referring, Dr. Acampora, to paragraphs
 24 58, 59, and 62 through 69.
 25

1 prepared, and that may answer your question.
 2 Q. Sure.
 3 A. So I already mentioned that I attended a
 4 face-to-face meeting with Mr. Lebar and Mr. Bertin. I
 5 had numerous telephone conversations with Mr. Bertin
 6 and with his colleagues at -- at Bingham. And as a
 7 result of these meetings and telephone conversations, I
 8 let all my opinions be known with regard to the issues
 9 that I was asked to offer opinions on in my
 10 declaration.
 11 And I actually, mechanically, prepared parts
 12 of this declaration. By "mechanically," I mean fingers
 13 to keyboard. Other parts of this declaration,
 14 mechanically, were prepared by someone else.
 15 I did review everything that was prepared by
 16 somebody else. I heavily red-lined and edited. So
 17 ultimately, what you see in front of -- in front of us
 18 is -- is my report.
 19 So content-wise, this was prepared by me.
 20 Mechanically, parts of it might be typed -- might have
 21 been typed by somebody else.
 22 Q. Now, you were careful in reviewing this
 23 declaration before you signed it, correct?
 24 A. I was.
 25 Q. Okay. And this declaration is accurate in

1 BY MR. LU:
 2 Q. And Dr. Acampora, my question is: These
 3 paragraphs regarding the claim construction principles,
 4 were those provided to you by the lawyers at Bingham?
 5 A. Okay. Let me restate the question so I'm sure
 6 I'm providing an answer to what you asked -- what I
 7 think you asked.
 8 The question, as I understood it, were
 9 paragraphs 58, 59, and 62 through 69 provided to me by
 10 attorneys at Bingham?
 11 Q. Correct.
 12 A. That's essentially correct. Although, as they
 13 were originally provided, there may have been some
 14 language that I didn't fully understand, and I asked
 15 for clarification. I did not prepare that
 16 clarification.
 17 So I guess the answer to your guess is yes.
 18 Ultimately, those paragraphs were provided to me.
 19 Q. Okay. So let's talk about your declaration,
 20 generally.
 21 Sitting here today, is there anything in your
 22 declaration that you believe is incomplete in any way?
 23 A. Not that I can think of right now.
 24 Q. And did you write this declaration?
 25 A. Well, let me explain how my declaration was

1 every respect?
 2 A. There's nothing that I'm aware of now that is
 3 not accurate.
 4 Q. Okay. And you had the opportunity to review
 5 this declaration in preparation yesterday, correct?
 6 A. Say again?
 7 Q. You had the opportunity to review this
 8 declaration since you signed it, correct?
 9 A. I did.
 10 Q. And how many times have you reviewed this
 11 declaration since you signed it?
 12 A. Let's say one and a half.
 13 Q. Why half?
 14 A. Once was a comprehensive read, and once was a
 15 skim.
 16 Q. Okay. And so sitting here today, you're not
 17 aware of any inaccuracies in this declaration?
 18 A. Not that I'm aware of.
 19 Q. Okay. Is there anything in this declaration
 20 that you need to change?
 21 A. Not that I'm aware of.
 22 Q. So there are no mistakes in this declaration
 23 that you feel that you need to correct?
 24 A. Not that I'm aware of.
 25 Q. Okay. Is there anything that would make you

1 aware of mistakes or changes that you need to correct?
 2 A. I'm not sure what you mean.
 3 Well, if I discovered something as we're -- in
 4 the course of our conversation today that I felt needed
 5 some clarification, wasn't stated as pristinely as I
 6 think I intended it to be, if there's some confusion on
 7 it, then maybe the answer is yes.
 8 Q. Okay. So let's turn to what's been marked as
 9 Exhibit 6.
 10 MR. LU: Rob, do you have a copy of that?
 11 MR. BERTIN: I probably do, but which --
 12 MR. LU: Exhibit 6 is the CV, I believe, of --
 13 MR. BERTIN: Okay.
 14 MR. LU: -- Dr. Acampora.
 15 BY MR. LU:
 16 Q. Do you have that in front of you?
 17 A. I believe it's somewhere in this stack.
 18 Q. There it is.
 19 A. Thank you.
 20 Q. So Dr. Acampora, I'll represent to you that
 21 this is the -- a true and correct copy of the CV that
 22 was attached as the exhibit to your declaration.
 23 So I had some questions regarding your CV, and
 24 I was hoping you might be able to answer that.
 25 First question is: Could you describe briefly

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1 your educational background?
 2 A. Yes. I received my Bachelor of Science in
 3 electrical engineering from the Polytechnic Institute
 4 of Brooklyn in 1968; master of science in electrical
 5 engineering from the same university in 1970; and my
 6 Ph.D., also in electrical engineering, same university,
 7 1973.
 8 Q. And you've highlighted some of those
 9 qualifications in your expert report; is that right?
 10 A. I'm not sure what you just asked.
 11 Q. Let me rephrase that.
 12 So you've also got a work history that's
 13 recited in your CV, correct?
 14 A. That's correct.
 15 Q. And you've highlighted certain aspects of the
 16 work -- of those -- those -- those -- your work
 17 experience in your declaration, correct?
 18 A. Well, there were two things. My CV has a
 19 summary of my professional experience.
 20 Q. Uh-huh.
 21 A. It also contained a lot of other material:
 22 publications, patents -- things of this type --
 23 funding, extramural funding. And my declaration also
 24 includes a section where I attempted to summarize my
 25 qualifications.

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1 Q. Okay. So why don't we turn to that section of
 2 your declaration which would be on -- which I believe
 3 starts with Roman numeral one at paragraph 4.
 4 So let me turn you first to paragraph 5 and
 5 the last sentence of that paragraph 5 which reads: "I
 6 have expensive experience with wireless communications
 7 systems, including the location and characterization of
 8 signal from wireless systems and use of such
 9 information to determine position."
 10 Do you see that?
 11 A. I do.
 12 Q. Could you describe your experience in the
 13 location and characterization of signals from wireless
 14 systems and use of such information to determine
 15 position?
 16 A. Sure. First, I've been involved in wireless
 17 communications -- communication by means of radio or
 18 free-space optical means for 40 some-odd years. I was
 19 involved in the -- I was a member of the satellite
 20 systems research department at Bell Labs for a number
 21 of years. I was director of the center for
 22 telecommunications research at Columbia University for
 23 seven years. That center was funded jointly by the
 24 National Science Foundation and telecommunications
 25 industry for the express purpose of better coupling

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1 academic research into commercial practice to
 2 enhance -- to help to enhance the nation's economic
 3 competitiveness.
 4 So in addition to the programs that we were
 5 pursuing in wireless communications, I was interacting
 6 continually with our industrial affiliates also working
 7 in that field.
 8 I then founded the Center for Wireless
 9 Communications at UC San Diego, which I directed for
 10 five years, and I continued -- I remain a member of
 11 that center today. That center is also funded by the
 12 wireless communications industry.
 13 I have interacted with and continue to
 14 interact with the industry extensively. I've consulted
 15 for industry. I've done a lot of work in wireless
 16 communications. And part of -- I teach courses in
 17 wireless communications. And a part and parcel of --
 18 part and parcel of all of that experience includes
 19 exposure to location and characterization of signals
 20 from wireless systems and the use of such information
 21 to determine position.
 22 Moreover, in one of my -- one of the companies
 23 that I consulted for, Wireless Communications,
 24 Incorporated, and it's probably not listed here because
 25 it may not go back far enough in time, and what I

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1 should have been looking at is Exhibit 1, my CV. While
 2 I was at -- Wireless Communications, first of all, the
 3 company was involved in the deployment of cellular
 4 systems world-wide. In fact, it was heavily involved
 5 in the deployment of cellular systems worldwide.
 6 Part of what we did there was determine the
 7 best locations to site cell towers for coverage and
 8 capacity regions. And one of the projects that we
 9 actually undertook while I was there -- and I was
 10 directly involved in this -- was a scheme to use the
 11 existing infrastructure of CDMA base stations in a
 12 position determination system.
 13 So I've -- I've had lots of experience with
 14 wireless communications, including location and
 15 characterization of signals.
 16 Q. Okay?
 17 A. Propagation of signals, shadow-fading,
 18 multipath-fading, means to abate these. This what I do
 19 for a living.
 20 Q. Okay. So -- let's break that up a little bit,
 21 and we'll come back to Wireless Communications, Inc.,
 22 in a few moments.
 23 Other than Wireless Communications, Inc., what
 24 experience do you have in the location of signals from
 25 wireless systems and use of such information to

1 determine position?
 2 A. Well, I'm not sure I understand your question.
 3 Q. Okay. And perhaps it may be because you need
 4 both to do that; is that correct?
 5 A. Say again?
 6 Q. Is it because you need both the location and
 7 characterization of signals from wireless systems?
 8 A. No. I just didn't understand your question.
 9 Q. Okay. So I want to focus on what specific
 10 experience you have, other than the work for
 11 Wireless Communications, Inc., on the location and
 12 characterization of signals from wireless systems and
 13 use of such information to determine position.
 14 A. Okay. Well, as I said, in my opinion, it
 15 would be impossible for somebody who has worked in
 16 wireless communications for as long as I have in the
 17 positions that I had, both as a direct contributor and
 18 as a manager, and not have extensive exposure to
 19 location and characterization of signals from wireless
 20 systems and the use of such information to determine
 21 position.
 22 GPS, as an example, would fall into this
 23 category. I've got experience with that. I teach this
 24 material.
 25 Q. Okay. Other than GPS and cell systems, what

1 other wireless systems that you have experience with
 2 would be used for the purpose of determining position?
 3 A. Well, I'm not sure there are any systems
 4 beyond satellite systems and terrestrial cellular
 5 systems. And I would include in cellular --
 6 infrastructure of wireless, local area networks. They
 7 behave very similarly. They function very similar with
 8 access point replaced by base station.
 9 Q. So it's your opinion that cellular systems are
 10 functionally very similar -- strike that.
 11 So it's your opinion that cellular systems for
 12 location determination are functionally very similar to
 13 WIFI systems for location determination?
 14 A. That's not what I said.
 15 Q. Okay. What is it that you said? Please
 16 elaborate.
 17 A. Well, what I said is -- you had asked
 18 specifically about GPS and cellular. And you asked,
 19 are there any other systems that I'm familiar with that
 20 as -- as I believe your question was phrased -- that
 21 had some involvement with location and characterization
 22 of signals.
 23 And what I was trying to do in my answer was
 24 explain that except for satellite systems and cellular
 25 systems, there aren't much else -- many other types of

1 systems that I could think off that are characterized
 2 as being wireless, including under the umbrella of
 3 cellular, infrastructured, wireless, local area
 4 networks.
 5 Q. Why do you include infrastructure wireless
 6 local area networks under the umbrella of cellular
 7 systems?
 8 A. From a 100,000-foot perspective, a
 9 infrastructure cellular system involves base
 10 stations -- or access points and wireless clients. And
 11 from the same hundred-thousand-foot perspective, a
 12 cellular system involves base stations and wireless
 13 clients. The base stations and the access points both
 14 provide the point of entry into the worldwide telecom
 15 infrastructure. So I'm looking at this from a very
 16 high perspective. From that vantage point, they look
 17 very similar.
 18 Q. Okay. What about --
 19 A. That does not mean they perform in accordance
 20 the way they operate, in accordance with the same
 21 standards or use the same technologies. Once we get
 22 down below that hundred-thousand-foot,
 23 superficial-block diagrammatic description, there are a
 24 number of -- a number of differences.
 25 Q. And what are some of those differences?

1 A. Range might be one. Wireless local area
 2 networks or the range on an access point was not
 3 necessarily intended to be beyond -- much beyond a few
 4 hundred feet, or cellular systems might have ranges
 5 that -- well, they may be that small. Some base
 6 stations may have a range that extend to -- that may
 7 extend to several miles. That's one type of
 8 difference. They operate in accordance with different
 9 standards. They use different parts of electromagnetic
 10 spectrum. They use different modulation and coding
 11 techniques. They have different design objectives.
 12 Q. What do you mean by "different design
 13 objectives"?
 14 A. Availability, quality of service -- things of
 15 this type.
 16 Q. What do you mean by "availability"?
 17 A. One of the issues that we face in wireless
 18 communications is the fact that the signal strength is
 19 not constant. Signal strength can fluctuate for a
 20 variety of reasons. Line-of-sight blockage, multipath
 21 propagation, movement of client devices.
 22 Cellular systems, for the most part, are
 23 designed with a higher availability requirement than a
 24 wireless, local area network might be. Cellular
 25 systems are designed so that there's a certain quality

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1 of service guarantee. As an example, for basic
 2 cellular telephony, there are two things that we need
 3 to be concerned with. What is the likelihood that you
 4 try to place a cell call and the call doesn't go
 5 through because there wasn't a circuit available? And
 6 you need to be sure that the cellular system is
 7 designed so that that does not happen more than some
 8 specified fraction of the time. You need to be sure
 9 the call is not dropped because the user moves out of
 10 range of coverage and can't be picked up by a
 11 surrounding cell tower. Or the signal might be
 12 dropped -- blocked or dropped because the signal
 13 strength simply fades below some floor. You need to
 14 guarantee a certain call-blocking rate for wireless
 15 local area networks. These may or may not be design
 16 criteria.
 17 Some wireless networks -- my at-home
 18 network -- I bought a wireless router, and I installed
 19 it. And it's giving me pretty good service. I'm the
 20 only one using it, but -- so I don't need to be worried
 21 about the air link becoming clogged because there's too
 22 much demand for a juice. I'm the only user. But in
 23 terms of -- of coverage, parts of my house have great
 24 coverage, and other parts of my house where I have no
 25 signal. In a cellular system, that would probably not

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1 be acceptable. I would need to do something to fix
 2 that.
 3 Q. Okay. Any other differences between cellular
 4 systems?
 5 A. Well, we can spend all afternoon -- or all
 6 morning and all afternoon talking about that, if you
 7 want. So how much detail do you want to get down to?
 8 Q. Well, what are the other major differences, in
 9 your view?
 10 A. I already mentioned that they use different
 11 parts of the spectrum. They're deployed with different
 12 objectives in mind, different service quality
 13 objectives, different modulation and coding techniques,
 14 different capacities.
 15 How much more detail do you want to get into?
 16 I can take any one of these topics and take you down to
 17 the next plateau.
 18 Q. Well, let's ask about some -- let's ask about
 19 some differences that I had in mind.
 20 Who controls the cell towers?
 21 A. I'm not sure what you mean by "control."
 22 Q. Well, when you -- when you install a cell
 23 tower, who does the installation there?
 24 A. I'm still not quite sure what you mean.
 25 Q. If I'm -- if I've got a Verizon -- Verizon

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1 phone, and I'm connecting to a Verizon -- a cell tower,
 2 who owns that cell tower?
 3 MR. BERTIN: Object to form.
 4 THE WITNESS: Okay.
 5 BY MR. LU:
 6 Q. Let me phrase --
 7 A. I -- I --
 8 Q. Let me phrase it to you a little differently.
 9 So there's a cell tower infrastructure that a
 10 particular network provider creates, correct, or
 11 builds?
 12 A. I -- I think I understand what you're asking.
 13 I think the answer is yes, but why don't I let you go
 14 on to see where it's -- where it's going.
 15 Q. Okay.
 16 A. And if I need to correct what you said, I
 17 will.
 18 Q. All right. So a particular network
 19 provider -- let's use Verizon as an example -- would
 20 have a -- would have cell towers that it controls,
 21 correct?
 22 A. I'm -- I'm -- I'm -- I -- I think the answer
 23 to the question as you're -- as I'm interpreting
 24 "control," I think the answer to the question is -- is
 25 yes, but --

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1 Q. Why don't you clarify.
 2 A. But cell towers might be installed on
 3 buildings. Verizon certainly does not own the
 4 buildings upon which the cell towers are installed.
 5 Verizon may lease the space. Some towers are shared.
 6 More than one wireless carrier have equipment installed
 7 on that same tower. And they may even lease space on
 8 that tower. I'm not even sure about the equipment
 9 itself. It's probably owned by the individual
 10 carriers, but perhaps that's -- at least I -- so if
 11 you -- if by "control" you mean -- if I'm a Verizon
 12 customer, does my signal arrive at -- let's put it this
 13 way. If I'm a Verizon customer, the signal -- the
 14 point where my signal arrives at the network is
 15 probably controlled by Verizon. But even that may not
 16 be the case because I may be a roamer. I may
 17 actually -- Verizon may have a roaming agreement with
 18 another carrier, and I, in fact, may be served by that
 19 ultimate carrier.
 20 So I -- I'm not sure. I -- I think, in
 21 general, the answer to your question is yes, but, once
 22 again, it was -- the question is so vague, I -- I
 23 really can't be --
 24 Q. Sure.
 25 A. -- any more specific than I just tried to be.

1 Q. Okay. So let's -- let's focus on just the
 2 network provider-owned towers. They have particular
 3 towers that they own or otherwise control in the sense
 4 that their network traffic can pass through that
 5 particular cellular tower, correct?
 6 A. Well, let me answer the following way. In the
 7 case of Verizon wireless, there are probably some cell
 8 sites that are equipped with equipment that was
 9 purchased by Verizon. That's probably the case. And
 10 traffic will flow through those base stations.
 11 Q. Let me -- let me phrase this a little
 12 differently then.
 13 Traffic flows through cellular base stations
 14 for a particular network provider, correct?
 15 If you've got a cell phone -- if you have a
 16 cell phone --
 17 A. Roughly speaking --
 18 Q. And you're using --
 19 (Reporter interruption.)
 20 Q. Let me -- let me -- let me -- if -- if you
 21 have a cell phone, and you're placing -- you're
 22 accessing your cellular carrier's network, that signal
 23 has to pass through a cell tower, correct?
 24 A. That is correct.
 25 Q. Okay. And --

1 Q. So location determination on a cell phone that
 2 is compatible with a particular carrier, how is that --
 3 is that determined using cell phone towers if it's a
 4 cellular model?
 5 MR. BERTIN: Object to form.
 6 THE WITNESS: Can you ask that question again?
 7 BY MR. LU:
 8 Q. Let me -- let me reask that question. That
 9 was not quite where we were going with it.
 10 So we have a -- we have a network carrier such
 11 as a Verizon or an AT&T, correct?
 12 A. A cellular carrier.
 13 Q. Cellular carrier?
 14 A. Such as Verizon wireless or AT&T.
 15 Q. Right.
 16 A. Okay.
 17 Q. And they have certain cellular towers that
 18 they have access to and through which their network --
 19 network traffic travels, correct?
 20 A. Again, roughly speaking, that's sort of
 21 correct. But it's not a totally accurate description
 22 of how things operate.
 23 I try to be -- I tried to help in that regard
 24 just a few moments ago, but it's not as simple as your
 25 representing it to be.

1 A. Assuming that I successfully connected, the
 2 signal will flow through a cell tower. That's correct.
 3 Q. And that cell tower is something that your
 4 network provider presumably has access to, correct?
 5 A. In some cases, yes. In some case, perhaps
 6 not.
 7 Q. So how does a network provider receive a
 8 signal through a cell tower that it does not have
 9 access to?
 10 A. Well, as I explained before, it's not -- it's
 11 not necessarily the case that a particular carrier owns
 12 the equipment associated with its own -- it may lease
 13 that equipment.
 14 Q. But it does have access to that equipment?
 15 A. It -- it may outsource the maintenance of that
 16 system.
 17 So I'm not sure what you mean when you say --
 18 when -- when you say has -- has access, the impression
 19 I have in mind is a Verizon employee can take a key and
 20 somehow walk up and open a box of equipment. If that's
 21 what you mean by "access," in many cases that's
 22 certainly true, and in some case, it may not be true.
 23 Q. Okay. But the Verizon network would be able
 24 to receive signals transmitted to that cell tower,
 25 correct?

1 A. What cell tower?
 2 Q. All right. Let's -- let's -- let's -- let's
 3 try -- let's try this a little -- from a slightly
 4 different approach.
 5 Network -- a -- a network provider would end
 6 up -- has -- a network provider generally has a network
 7 of cell towers through which it may receive signals
 8 from its subscribers, correct?
 9 A. Again, generally speaking, that's true. So
 10 let's talk hundred-thousand-foot perspective, once
 11 again. That's true.
 12 Q. Okay. And those cell towers are cell towers
 13 that, through whatever legal arrangement they have, are
 14 ones that signals from their subscribers are passed on
 15 to the network provider, correct?
 16 A. Okay. I'm going to assume when you say "cell
 17 tower" you mean base station.
 18 Q. Yes.
 19 A. Yes. Because the tower itself doesn't receive
 20 a signal. The equipment installed on the tower
 21 receives a signal.
 22 Q. Fair enough.
 23 A. That's the base station.
 24 Q. That's the base station, okay.
 25 A. Yeah.

1 A. Well, I don't know if that's true or not.
 2 Q. Well, how -- how difficult is it to move a
 3 cell tower on which a base station is installed?
 4 A. That depends on the installation.
 5 Q. Is it -- do you -- do you have any notion of
 6 how often cell tow- -- cellular base stations are moved
 7 from one location to another for a typical carrier?
 8 A. Now, you're asking about the base station or
 9 the towers upon --
 10 Q. I'm asking about a base station.
 11 A. I don't know how often they -- they might be
 12 moved. But I do know the deployment is an evolving
 13 process. It's not that the network is deployed and a
 14 snapshot is taken and it's frozen for all time. It's
 15 an evolving thing. It's a work in progress.
 16 Q. Okay.
 17 A. And carriers are continually upgrading the
 18 network by deploying additional base stations or
 19 providing base stations that have greater capability or
 20 may even conform to a different standard.
 21 Q. Okay. But the cell providers, if they were to
 22 replace a base station or move a base station, would
 23 know the location of that either new base station or
 24 moved base station, correct?
 25 A. That's probably the case.

1 Q. Okay. Now do the network providers know the
 2 locations of those base stations?
 3 A. Yes.
 4 Q. And how is it that the network providers know
 5 the locations of those base stations?
 6 A. They, in most cases, supervise the
 7 installation of those base stations. The locations of
 8 the base stations are well known --
 9 Q. In fact --
 10 A. -- to the provider.
 11 Q. In fact, the locations of those base stations
 12 are in many sit- -- in many cases actually selected by
 13 the network providers in order to maximize coverage,
 14 correct?
 15 A. As part of the deployment of a cellular
 16 network, part of the design procedure includes siting
 17 the base stations. Where should the base stations be
 18 located? And that's -- that's dependent upon coverage,
 19 capacity, availability -- a footprint to simply install
 20 the equipment on, the cost of so doing. So a whole
 21 bunch of factors that go into the deployment of a
 22 cellular network.
 23 Q. And in the vast majority of those cases, those
 24 base stations are meant to be permanently situated,
 25 correct?

1 Q. Okay. Now is there a -- well, strike that.
 2 A. Well, when I say "that's probably the case,"
 3 eventually, that's probably the case. How they would
 4 learn that, that's a different matter.
 5 But eventually, I would assume that the
 6 carriers know the locations of the base stations.
 7 Through some process they -- they -- they know where
 8 their base stations are.
 9 Q. Okay. And all cellular base stations, at
 10 least in the United States, are controlled by network
 11 providers, correct? Or strike that.
 12 All cellular base stations, at least in the
 13 United States, are connected to cellular providers,
 14 correct, or associated with cellular providers?
 15 A. I don't know if that's the case.
 16 Q. Do you know of instances where cellular base
 17 stations are not connected to or associated with
 18 cellular network providers?
 19 A. Well, I can't tell you that I can -- I can't
 20 tell you a specific instance. But there has been
 21 discussion in the industry -- and it might have even
 22 happened -- where the radio license is not owned by
 23 what we regard as being a carrier. And the owner of
 24 the radio license deploys equipment and then sublets
 25 the airwaves to carriers.

1 Now, I can't give you a specific instance of
 2 where that happens, but it may.
 3 Q. But in those instances, the base station
 4 location would still be known by the cellular providers
 5 who would be accessing it, correct?
 6 A. Probably, but I'm not certain.
 7 Q. Okay. How many WIFI access points, ballpark,
 8 are there in the United States?
 9 A. Well, I -- I can't even give you ballpark
 10 estimate. I would -- but it's -- it -- it would be
 11 measured in millions, if that's what you're asking.
 12 Q. Are there any national WIFI access-point
 13 providers -- WIFI access-point service providers?
 14 A. Well --
 15 Q. T-Mobile would be one?
 16 A. As I'm interpreting your question, the first
 17 that comes to mind would be T-Mobile, right.
 18 Q. Any others that come to mind?
 19 A. I can't give you names, but there are others
 20 that are offering service. Who's offering service at
 21 airports, as an example? T-Mobile may be offering
 22 service at some airports. There are other providers of
 23 WIFI service at airports, and they do have -- as I
 24 interpreted your question -- national footprints.
 25 Q. Okay. What percentage of WIFI access points
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1 do you believe are sort of controlled or accessible
 2 otherwise by these national wireless access-point
 3 service providers?
 4 A. I don't know.
 5 Q. More than 50 percent?
 6 A. I don't know.
 7 Q. 100 percent?
 8 A. Not 100 percent.
 9 Q. 50 percent?
 10 A. Not 100 percent. I own by own base station
 11 that was never provided by T-Mobile, so certainly not
 12 100 percent.
 13 Q. 75 percent?
 14 A. I don't know.
 15 Q. You -- you just know it's not 100 percent
 16 because you have at least one?
 17 MR. BERTIN: Object to form.
 18 THE WITNESS: That's -- that -- that -- that
 19 sort of -- that in existence proof, I would assume
 20 that -- I -- I know of other people that own their own
 21 access points, so the number is not 100 percent. But
 22 you're asking me what fraction -- I think you're asking
 23 me what fraction of base stations are owned by these,
 24 quote, "national carriers," unquote, and I don't know
 25 the answer to that question.
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1 In fact, I'm not sure that Verizon and AT&T,
 2 themselves, don't own and operate networks of WIFI
 3 access points in an attempt to offload traffic from
 4 their cellular networks or that they have leasing
 5 arrangements with owners of access points for the same
 6 purpose. It's a lot going on in this industry.
 7 MR. LU: Okay. So we've been going for about
 8 an hour. Why don't we take a short break?
 9 MR. BERTIN: Sure.
 10 THE VIDEOGRAPHER: We're going off the record.
 11 The time is 10:07 a.m.
 12 (A brief recess was taken.)
 13 THE VIDEOGRAPHER: We're going back on the
 14 record. The time is 10:17 a.m.
 15 BY MR. LU:
 16 Q. Okay. Dr. Acampora, let's turn back to your
 17 declaration, specifically paragraph 2 of your
 18 declaration.
 19 Now, it states that you've been engaged as an
 20 expert to review issues relating to patents owned by
 21 Skyhook Wireless, Incorporated, and you identify that
 22 as including the asserted patents in this case.
 23 Do you see that?
 24 A. That's a part of what I was asked to do.
 25 Q. Okay. Were you -- did you review issues
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1 relating to patents other than the asserted patents in
 2 this case?
 3 A. I -- I don't understand the question.
 4 Q. So you indicate that you have -- were engaged
 5 as an expert to review issues relating to patents owned
 6 by plaintiffs Skyhook Wireless?
 7 Do you see that?
 8 A. Yes.
 9 Q. And you say that that includes the asserted
 10 patents in this case -- the 988, 694, 897, and 245.
 11 Do you see that?
 12 A. I do.
 13 Q. Did you review issues relating to patents
 14 owned by Skyhook other than the asserted patents in
 15 this case?
 16 MR. BERTIN: I'm just going to -- to note for
 17 the record that Dr. Acampora is an expert for Google,
 18 and he's being offered in this instance to testify
 19 about his opinions on claim construction. And I would
 20 ask that his answers be on claim construction.
 21 MR. LU: I -- I note your objection, but I
 22 also note that his expert declaration indicates that he
 23 was asked to review issues relating to patents owned by
 24 Plaintiff Skyhook Wireless, including the asserted
 25 patents, but apparently not limited to the asserted
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1 patents. So I'd like to find out what issues he's
 2 reviewed relating to patents owned by Skyhook, other
 3 than the asserted patents.
 4 BY MR. LU:
 5 Q. And if you could please answer that question?
 6 MR. BERTIN: And my -- my instruction is
 7 that's fine in connection with claim construction.
 8 THE WITNESS: The issues that I'm referring to
 9 in paragraph 2 are claim-construction issues. And I
 10 have not reviewed claim-construction issues with regard
 11 to any Skyhook patents other than the four mentioned in
 12 paragraph 2.
 13 BY MR. LU:
 14 Q. Did you review any Skyhook patents, other than
 15 the four mentioned in paragraph 2, for the purposes of
 16 claim construction?
 17 A. Well, for the purpose of claim construction --
 18 for the purposes of my assignment that resulted in this
 19 declaration, I believe the answer is no.
 20 Q. Did you review any of those patents for the
 21 purpose of preparing the background and description of
 22 the claimed inventions?
 23 A. What patent are you referring to?
 24 Q. Let me rephrase that.
 25 Did you review any patents -- any Skyhook

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1 patents other than the asserted patents in suit for the
 2 purposes of preparing the background and description of
 3 the claimed invention?
 4 A. What's included in my declaration -- all of
 5 the views and opinions expressed in this declaration
 6 are based only on these four patents.
 7 Q. Okay. So --
 8 A. And their prosecution histories.
 9 (Reporter interruption.)
 10 THE WITNESS: And their prosecution histories.
 11 BY MR. LU:
 12 Q. Did you review any of the provisional patents
 13 for the asserted patents in suit? Let me rephrase
 14 that.
 15 Did you review any of the provisional patent
 16 applications for the purpose of -- for the asserted
 17 patents in suit for the purposes of preparing your
 18 declaration?
 19 A. Not that I can recall. But I would need to
 20 review my declaration to see if, in fact, I indicated
 21 any of those provisional applications as being material
 22 that I relied upon.
 23 Now, I'm sure those provisional applications
 24 are referenced in my report. But did I rely upon them
 25 for forming my opinions? Yeah. On para -- on page 11,

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1 section C, the asserted patents familial relationship
 2 to each other. And here I reference the provisional
 3 application. It's a 108 provisional application.
 4 There may have been some other provisional applications
 5 mentioned as well.
 6 Q. Does that indicate that you reviewed those
 7 provisional applications for the purposes of preparing
 8 your declaration?
 9 A. Well, see, that's what I'm having difficulty
 10 in -- in responding to.
 11 In general, the answer to that question is
 12 probably not, except that I am noting here the
 13 relationship among all of these patents. So to that
 14 extent, yes. To the extent that I'm noting the
 15 relationship here, the answer is yes.
 16 Now, if you're asking did I rely upon
 17 something that was stated in the provisional
 18 application to support an opinion -- a claim
 19 construction opinion -- that I have, there, the answer
 20 is perhaps not. But did I consider the provisional
 21 applications with regard to the preparation of the
 22 report? Well, clearly, I did. They're mentioned right
 23 here.
 24 Q. Did you read the provisional applications that
 25 are referenced on page 11?

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1 A. Not that I can recall. Unless they were
 2 referenced in the prosecution history, in which case I
 3 probably did.
 4 Q. And what do you mean by "referenced in the
 5 prosecution history"?
 6 A. If there was discussion concerning those
 7 provisional applications in any of the office actions
 8 or response to the office action, if they were
 9 referenced there, then I probably did read them or at
 10 least sections of them.
 11 Q. And did you -- so it's your view that if you
 12 relied upon -- strike that.
 13 So it's your view that you would have relied
 14 upon the provisional applications for the purpose of
 15 preparing your declaration if such provisional
 16 applications were referenced in the -- back and
 17 forth -- between the patent office and the applicant;
 18 is that correct?
 19 A. That's not quite what I said.
 20 You asked me if I read them, and I told you,
 21 "not that I can recall," unless they were specifically
 22 called out in an office action or response to an office
 23 action, in which case I probably read the portions that
 24 were called out. That does not mean that I relied upon
 25 that for my opinions.

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1 I'm simply -- your question was addressed to
 2 whether I read them or not.
 3 Q. Did you provided copies of everything you read
 4 in connection with the asserted patents to your
 5 attorneys at Bingham?
 6 A. Can you ask that question again?
 7 Q. Did you provide copies of everything you read
 8 in connection with the asserted patents in the
 9 preparation of this declaration to your attorneys at
 10 Bingham?
 11 A. I provided a list of everything that I read
 12 with regard to my assignment to attorneys at Bingham.
 13 Q. Okay. And were -- did you rely upon -- if you
 14 had relied upon the provisional applications for the
 15 purpose of preparing your declaration, you would have
 16 provided those provisional applications and copies
 17 thereof to the attorneys at Bingham, correct?
 18 A. Not necessarily.
 19 What I might have indicated is -- what I did
 20 read and what I did rely on were prosecution histories.
 21 And as I testified earlier, if any of the provision
 22 applications were specifically called out as part of an
 23 office action or response to an office action, then I
 24 certainly read passages from those provisional
 25 applications.

1 But would I have called that out separately
 2 from the prosecution history? Probably not.
 3 Q. Those passages would have been the one -- the
 4 passages quoted in the prosecution history?
 5 A. If there were any, and I'm not saying that
 6 there were. But that would have been it, yes.
 7 Q. If there were no passages from provisional
 8 applications quoted in the prosecution history, would
 9 it be the case that you would not have read the
 10 provisional application?
 11 MR. BERTIN: Object to form.
 12 THE WITNESS: That's probably the case. But
 13 again, there may have -- and I just don't recall. So
 14 we're actually dealing in the realm of the speculative
 15 right now. There may have been sections in the
 16 prosecution history that referenced provisional
 17 applications and may have been discussion concerning
 18 those provisional applications, and that material I
 19 certainly did read as part of my assignment in this
 20 matter.
 21 BY MR. LU:
 22 Q. Okay. But you provided everything that you
 23 relied upon for the purposes of your declaration to the
 24 attorneys at Bingham for purposes of production to the
 25 attorneys at Skyhook, correct?

1 MR. BERTIN: Well, objection. Asked and
 2 answered.
 3 THE WITNESS: Again, I believe the answer to
 4 that question -- I believe the question you asked me
 5 earlier was whether I provided to attorneys at Bingham
 6 all the material I read with regard to my assignment.
 7 Yes.
 8 And let me clarify that. What I said was I
 9 provided a list of -- not necessarily the documents
 10 themselves -- but a list of what I relied on.
 11 MR. LU: Okay.
 12 THE WITNESS: A list of what I read.
 13 BY MR. LU:
 14 Q. All right. I'd like you to turn to paragraph
 15 3 of your declaration and specifically the sentence
 16 beginning: "In forming my opinions as expressed below,
 17 I've relied primarily upon the text of the claims and
 18 specifications of the asserted patents, their
 19 prosecution histories, certain related patents, and
 20 patent applications assigned to Skyhook, including
 21 their prosecution histories, and exhibits to the
 22 declaration of Susan Baker Manning, dot, dot, dot, as
 23 well as my background knowledge and experience in the
 24 field."
 25 Do you see that?

1 A. I do.
 2 Q. What are the "certain related patents and
 3 patent applications assigned to Skyhook, including
 4 their prosecution histories" that you refer to in this
 5 paragraph 3 that you relied upon for the purpose of
 6 preparing your declaration?
 7 A. Well, to answer that question, I'm going to
 8 need to go to my report -- through my declaration page
 9 by page.
 10 Visual application 108.
 11 Q. Which page is that?
 12 A. Page 11.
 13 Q. So it's your position --
 14 A. You didn't --
 15 MR. BERTIN: Hang on. Let him finish.
 16 THE WITNESS: Can I finish my answer?
 17 BY MR. LU:
 18 Q. Sure.
 19 A. 762 patent, 811 provisional, 481 provisional,
 20 the application that issued as the 762, the application
 21 that issued as the 127, and the pending application,
 22 No. 154.
 23 I believe that's it.
 24 Q. So other than the asserted patents, their
 25 prosecution histories, the patents, and applications

1 that you've identified in the prior answer, as well as
 2 their prosecution histories, and the exhibits to the
 3 Susan Baker Manning declaration, you did not rely on
 4 any other documents for the purpose of preparing this
 5 declaration?
 6 A. That's my recollection.
 7 Q. Let's talk a little bit about your work
 8 background.
 9 Where did you start your employment after
 10 getting your Ph.D.?
 11 A. I was working at AT&T Bell Laboratories when I
 12 got my Ph.D. and continued to work at Bell Laboratories
 13 after receiving my Ph.D.
 14 Q. And what were your duties and responsibilities
 15 when you started at AT&T Bell Labs?
 16 A. My first assignment was as a member of
 17 technical staff in a -- in an organization that was
 18 responsible for exploratory development -- design and
 19 development of -- of advanced radar systems for a
 20 ballistic missile defense.
 21 Q. And then you went on to go work in the radio
 22 research laboratory; is that correct?
 23 A. That's correct.
 24 Q. Turning to paragraph 9 of your declaration,
 25 you indicate in that paragraph that one of the things

1 they sent to the satellite arrives when it's supposed
 2 to and doesn't collide with some other transmission.
 3 And similarly, each base station -- although
 4 it's not as critical -- would also need to know when
 5 the receiver must listen for a signal that's targeted
 6 at itself.
 7 So this work was associated with strategies
 8 for effectively obtaining the requisite range
 9 information by means of synchronization signals sent
 10 from the satellite -- or sent through the satellite --
 11 not necessarily sent from the satellite, but sent
 12 through the satellite.
 13 Q. Now, at your time at Bell Labs, did you do any
 14 work on determination of location using access points
 15 or GPS or base stations?
 16 MR. BERTIN: Object to form.
 17 THE WITNESS: Okay. Those are three different
 18 things.
 19 BY MR. BERTIN:
 20 Q. Well, we can --
 21 A. So --
 22 Q. Did you do any -- while at Bell Labs, did you
 23 do any work on determination of location using GPS?
 24 A. Probably.
 25 Q. And how familiar are you with GPS

1 you did was to work on strategies to acquire and
 2 maintain synchronization of radio signals sent to and
 3 from satellite.
 4 Could you explain, generally, what that work
 5 related to?
 6 A. Can you --
 7 Q. Page 2 of your declaration.
 8 MR. BERTIN: Paragraph 9.
 9 BY MR. LU:
 10 Q. Paragraph 9, second to last line from the
 11 bottom.
 12 A. Okay. And your question once again is?
 13 Q. Explain, generally, what you mean by
 14 strategies to acquire and maintain synchronization of
 15 radio signals sent to and from a satellite?
 16 A. Well, these satellites -- actually, these
 17 techniques could have been used for -- for any
 18 satellite. But the satellites that I was concerned
 19 with at the time were geosynchronous satellites.
 20 (Reporter interruption.)
 21 THE WITNESS: Geosynchronous satellites.
 22 These were in orbit 26,000 miles above the
 23 surface of the earth. And there's a need for the base
 24 stations to effectively determine their range from the
 25 satellite for the purpose of ensuring that anything

1 technologies?
 2 A. Quite.
 3 Q. Quite familiar?
 4 Have you ever heard the phrase "triangulation
 5 used in connection with determining location in GPS"?
 6 A. I have.
 7 Q. And what is your understanding of the
 8 triangulation in connection with the determination of
 9 location in GPS?
 10 A. It's a method of using -- in fact, I think I
 11 have an opinion on that in -- in my declaration.
 12 Q. Is that on page 62 of your declaration?
 13 A. It is.
 14 Q. And is triangulation in GPS --
 15 A. I'm not sure the question I'm answering now.
 16 I thought there was a pending question, which was what
 17 I was trying to answer.
 18 Q. Well, to make -- to make the record clear, I
 19 was going to reask the question for -- you know,
 20 because the last question I asked is, "Is that on page
 21 62 of your declaration?" And you answered, "It is."
 22 So --
 23 MR. BERTIN: Do you want to reask or --
 24 MR. LU: I plan on reasking.
 25

1 BY MR. LU:
 2 Q. What is your understanding of triangulation as
 3 that word is used in the determination of location
 4 using GPS?
 5 A. Okay. In general, triangulation technique is
 6 calculating the physical location of a user device by
 7 using the strength of signals received from two or
 8 more -- well, you're asking me in the sense -- in the
 9 case of GPS. Two -- two or more GPS satellites whose
 10 locations have been calculated by the formation of
 11 triangles having to use a device in each such GPS
 12 satellite as a vertices.
 13 Q. So in your view, GPS --
 14 A. Except with regard to GPS, this might -- we
 15 might have needed three satellites because of the
 16 three-dimensional nature of GPS positioning.
 17 Q. So in your view, GPS location determination
 18 uses a triangulation technique in which triangles are
 19 formed having the GPS device and each of the satellites
 20 as the vertices?
 21 A. In GPS the location technique is generally
 22 known as triangulation. And at the end of the day, one
 23 can draw a triangle -- well, on a planet surface, one
 24 would be able to draw a triangle with the two known
 25 locations and the location to be determined as

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1 vertices.
 2 Q. That wasn't the question I asked.
 3 The question I asked is: In determining
 4 location in GPS, is that location calculated by the
 5 formation of triangles having the GPS device and each
 6 of the GPS satellites as the vertices?
 7 MR. BERTIN: Object to form.
 8 THE WITNESS: Again, I tried to distinguish in
 9 my earlier testimony the difference between
 10 triangulation in -- on a plane from triangulation in
 11 three-dimensional space.
 12 The construction that I read on page 62 of my
 13 declaration applies to a plane. The question you're
 14 asking now is with regard to GPS. So a generalization
 15 of this two- or three-dimensional situation, we would
 16 need to generalize on what one would understand a
 17 triangle to be. But that technique, nonetheless, is
 18 known as triangulation.
 19 BY MR. LU:
 20 Q. And that technique would involve the formation
 21 of triangles in which the device and the satellites
 22 would act as vertices?
 23 A. Well, again, I'd -- as I tried to explain,
 24 these would be a generalization of -- of what would
 25 be -- the -- it would be a generalization of a

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1 triangle. The reason being, to fix location in three
 2 dimensions, you would need three satellites, and
 3 there'd be four vertices involved, location of the
 4 three satellites, and the location to be determined.
 5 So there'd be four vertices. Obviously, a triangle is
 6 only three.
 7 That's why I did say that in that case, we
 8 would need to -- and one would -- one of skill in the
 9 art would understand what's meant by triangulation.
 10 It's a phrase that's commonly used in GPS, but there
 11 are four points, not three points involved.
 12 Q. Okay. What about cell tower location? Is
 13 that a two-dimensional location determination
 14 technique?
 15 A. It could be.
 16 Q. Okay. And what is your understanding -- is
 17 triangulation used to determine location using cell
 18 towers?
 19 A. Well, there are many ways that are used --
 20 well, I shouldn't say many. There are several ways
 21 that one can use cell towers in conjunction with a
 22 location determination. One of those is certainly
 23 triangulation.
 24 Q. And how would you define "triangulation" in
 25 terms of determining location using cell towers?

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1 A. Same as I would define it in paragraph 155 in
 2 my report --
 3 Q. So --
 4 A. -- except I would replace "WIFI access point"
 5 by "cellular base station."
 6 Q. Now, are you aware that Google has adopted
 7 Skyhook's claim construction in connection with
 8 triangulation technique?
 9 A. You would need to show me what you're
 10 referring to. I am aware of what I propose the
 11 construction to be.
 12 Q. But no one has informed you that Google has
 13 adopted -- or the agreed-upon claim construction for
 14 triangulation technique proposed by Skyhook?
 15 A. Not that I can recall.
 16 Q. Have you heard the term "triangulation" used
 17 to describe -- well, strike that.
 18 You've seen the dictionary definitions for
 19 triangulation provided by Skyhook, have you not?
 20 A. Well, at what point in time?
 21 Q. After you've prepared your declaration in
 22 connection with preparation for the deposition today.
 23 A. I believe so.
 24 Q. And do you recollect what those definitions
 25 were?

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1 A. No.
 2 Q. Quick question, Dr. Acampora. Can you read
 3 source code?
 4 A. No.
 5 Q. Can you write source code?
 6 A. No.
 7 Q. Do you have any computer programming
 8 experience?
 9 A. Well, that's not a simple yes or no.
 10 I certainly programmed in the past. My
 11 students all program, and I supervise their work. So I
 12 guess the answer is, yes, I have had experience in
 13 writing programs in my past.
 14 Q. When you say in your past writing programs --
 15 A. I -- I think that was your question.
 16 Q. That was my question.
 17 A. Yes.
 18 Q. My -- my question is, when you say that you
 19 have experience writing programs in the past, are you
 20 talking about putting hands -- fingers to keys on
 21 keyboard, as you used that terminology previously
 22 today?
 23 A. I've done that.
 24 Q. Okay. And how long ago was that?
 25 A. Long time ago.

1 A. Yes.
 2 Q. And how -- that was not source code because it
 3 was in Basic or some other --
 4 A. Yes. I was it was in programming language,
 5 not source code, correct.
 6 Q. Okay. Do you have any database programming
 7 experience?
 8 A. I'm not sure what you mean by that. I've got
 9 experience with databases.
 10 Are you asking whether I've written source
 11 code to create database or to operate a database? The
 12 answer is no.
 13 Q. Do you have any experience in programming
 14 servers?
 15 A. Well, I'm going to ask you to clarify that
 16 question. I'm not sure what you mean by "programming
 17 servers." I gave you my programming experience before.
 18 If the computers upon which my programs
 19 execute are servers, then the answer to the question is
 20 yes.
 21 Q. Okay. But you have no experience writing
 22 source code that is used to operate a server?
 23 A. That is correct.
 24 Q. I'm going to put before you what I'm going to
 25 mark as Exhibit 8, which, to confuse things, is

1 Q. When you say long time ago, are we talking
 2 '80s? '90s? '70s? Punch cards?
 3 MR. BERTIN: Object to form.
 4 THE WITNESS: All of the above.
 5 BY MR. LU:
 6 Q. Okay. So when was the last time you had --
 7 where you wrote source code for a computer program?
 8 A. I don't know if I've ever written source code.
 9 That wasn't the question you asked.
 10 Q. What was -- what was the programming
 11 experience that you had? What did you write?
 12 A. Mostly computer simulations and, in some
 13 cases, actual formulas that were needed to produce
 14 numerical results at the end of a fairly extensive
 15 theoretical analyses.
 16 Q. So we're talking about something like math lab
 17 -- MATLAB?
 18 A. I've used MATLAB.
 19 Q. When you said "putting together formulas," are
 20 you referring to the use of MATLAB?
 21 A. Well, no. I actually wrote my own programs
 22 specifically to compute what needed to be computed.
 23 I've also used MATLAB, but less often.
 24 Q. And when you refer to simulations, that also
 25 referred to writing programs?

1 Exhibit 7 from the declaration of Lina Somait in
 2 support of Skyhook's claim construction brief.
 3 (Exhibit 8 was marked.)
 4 BY MR. LU:
 5 Q. I'd like you to refer to the definition of
 6 triangulation in this dictionary definition, which is
 7 from the American Heritage Science Dictionary. And it
 8 reads, for triangulation: "The method of determining
 9 the relative position of points in space by measuring
 10 the distances and sometimes angles between those points
 11 and other reference points whose positions are known.
 12 Trigo- -- triangulation often involves the use of
 13 trigonometry."
 14 Do you see that?
 15 A. I do.
 16 Q. Is that definition of triangulation consistent
 17 with your definition of triangulation provided in your
 18 expert declaration?
 19 A. I think this definition is a subset of my
 20 definition.
 21 Q. So your definition requires the formation of
 22 triangles; is that correct?
 23 A. Well, again, with the understanding that if
 24 we're dealing in three dimensions, these are
 25 generalized triangles that have four vertices.

1 Q. Okay. But the dictionary definition states
 2 that "triangulation often involves the use of
 3 trigonometry."
 4 Does it not say that?
 5 A. It says that.
 6 MR. BERTIN: Object to form.
 7 THE WITNESS: I'm not sure I would agree with
 8 that when it's use -- it's characterization of "often."
 9 BY MR. LU:
 10 Q. Okay. So your view is that triangulation must
 11 always involve the use of trigonometry; is that
 12 correct?
 13 A. Can I see the patent, please?
 14 Q. Yes. Copies of the patents are in front of
 15 you as Exhibits 1 through 4.
 16 A. Okay. The calculation that I'm referring to
 17 in my proposal instruction for triangulation technique
 18 would involve trigonometry.
 19 Q. And what is the basis for that view? Let me
 20 strike that.
 21 So I -- right. Okay.
 22 But at least according to the American
 23 Heritage Science Dictionary, one can perform
 24 triangulation without trigonometry; is that correct?
 25 MR. BERTIN: Object to form.

1 around the known location of the first cell tower -- so
 2 here's where trigonometry is coming in -- I would need
 3 to know the circle around the location of the first
 4 cell tower of radius equal to the distance that I just
 5 measured between myself and the first cell tower. Then
 6 I would draw a circle around the second cell tower of
 7 radius equal to the distance that I measured between
 8 myself and that second cell tower. I would note the
 9 intersection of those two circles. Those two circles
 10 would intersect in two points. And then I may be able
 11 to eliminate one of those two points as being
 12 physically impossible because it's in the ocean, as an
 13 example, and I know I'm on land. And I would therefore
 14 know my location.
 15 Q. And your location would be at the other
 16 intersection?
 17 A. Correct.
 18 Q. Okay. But if you're --
 19 A. And that would form the triangle, by the way.
 20 Q. But only in that circumstance where you can
 21 eliminate the second access point would that -- second
 22 intersection point would that constitute triangulation
 23 in your mind.
 24 A. Well, no. I didn't say that.
 25 Q. So you have -- okay. So triangulation could

1 THE WITNESS: Well, I think that what the
 2 confusion here may be is what's meant by
 3 "trigonometry."
 4 In my opinion, the calculations that I'm
 5 referring to in my construction would involve
 6 trigonometry. If you don't know trigonometry, you
 7 can't triangulate.
 8 BY MR. LU:
 9 Q. Is it possible to triangulate the position of
 10 a cell phone using only two -- the locations of two
 11 cell towers?
 12 A. Ask that again, please.
 13 Q. Is it possible to tri-- use triangulation to
 14 determine the location of a cell phone using the known
 15 locations of two cell towers within range of that cell
 16 phone?
 17 A. Yes.
 18 Q. Does that involve the use of trigonometry?
 19 A. Yes.
 20 Q. And how does it involve the use of
 21 trigonometry?
 22 A. Well, I can give by way of example.
 23 I can first determine my distance from the
 24 first cell tower. I can then determine a distance from
 25 a second cell tower. And if I were to draw a circle

1 include a scenario where you have two known -- two
 2 intersections in the scenario that you described where
 3 your location might be one of either of those two
 4 intersections?
 5 A. There may be instances where I actually don't
 6 care as to the ambiguity. But in many cases, that
 7 ambiguity is easily eliminated for a variety of
 8 reasons.
 9 Q. Okay. But those instances where you don't
 10 care about the ambiguity, that would -- that would
 11 still included triangulation, correct?
 12 A. Can you ask that question again.
 13 Q. In the instances where you don't care about
 14 the ambiguity, that would still, in your mind,
 15 constitute triangulation, correct?
 16 A. Well, the reason I'm hesitating is, if I'm
 17 trying to determine my location and we've -- this
 18 discussion has been by way of example. If we trace
 19 back through the questions you've asked, you'll see
 20 that I offered up my explanation as -- as an example.
 21 If the purpose of triangulation is to fix a
 22 location, the technique that I just described may
 23 involve an ambiguity which sometimes can be eliminated
 24 on the basis of impossibility of one of the two
 25 locations, and, in some cases, would need to be

1 eliminated by means of some additional measurement.
 2 But the triangulation technique that I just
 3 described is part of the process of fixing the
 4 location. It's -- it's calculating the physical
 5 location of the device using the strength of signals
 6 received from two or more -- in the question you asked
 7 me -- cell towers, I believe you were asking about --
 8 whose locations have been calculated by forming
 9 triangles having to use the device in each such WIFI
 10 access point as vertices.
 11 Q. Where's the triangle that's being formed in
 12 that example?
 13 A. The intersection would be one vertices-- one
 14 vertex. And the two locations, one for each cell
 15 tower, would be the other two. And you can then draw a
 16 triangle between those three locations.
 17 Q. Now, why would being on the water being an --
 18 an impossibility? I've got a boat, and I've got a cell
 19 phone.
 20 A. Well, in that case, I would use the -- the
 21 intersection that's in the water and eliminate the one
 22 on land since I know I'm on a boat.
 23 Q. All right. I'd like you to turn to page 60 of
 24 your expert declaration. And that is the section
 25 titled "Simple Signal Strength Weighted Average Model."
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1 Do you see that?
 2 A. No. I haven't quite gotten there yet. Can
 3 you ask one more time, please?
 4 Q. Sure. Turn to page 60 of your expert
 5 declaration. And that is the section titled "Simple
 6 Signal Strength Weighted Average Model."
 7 Do you see that?
 8 A. I do.
 9 Q. Now, I'd like you to turn to paragraph 152.
 10 And you mention that "there's a mathematical formula in
 11 the specification for taking the average of a location
 12 weighted by signal strength."
 13 Do you see that?
 14 A. I do see that.
 15 Q. How does one determine in this example the
 16 average of a location weighted by signal strength?
 17 A. In what example?
 18 Q. In the example described in 152 -- paragraph
 19 152.
 20 A. Okay. The question, once again, is?
 21 Q. How does one determine in this example the
 22 average of a location weighted by signal strength?
 23 MR. BERTIN: Which example?
 24 MR. LU: The example that's described in
 25 paragraph 152.
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1 THE WITNESS: Okay. I'm -- I'm not quite sure
 2 what you're asking.
 3 BY MR. LU:
 4 Q. Well, it's your declaration, and you say that
 5 there's a mathematical formula in the specification for
 6 taking the average of a location weighted by signal
 7 strength.
 8 Do you see that?
 9 MR. BERTIN: Object to form.
 10 THE WITNESS: But I didn't characterize that
 11 as being an example of anything. It's simply a
 12 statement of what's in the patent. If you're asking
 13 me -- if you're asking me to explain this mathematical
 14 formula --
 15 BY MR. LU:
 16 Q. Yes, I am asking you.
 17 A. -- formula and how it involves an average
 18 weighted-by-signal strength, that I can explain.
 19 Q. Sure. Why don't you explain that.
 20 A. Sure.
 21 MR. LU: Why don't we just take a quick
 22 thirty-second break to change the tapes.
 23 THE VIDEOGRAPHER: This marks the end of
 24 Media No. 1 of the deposition of Dr. Anthony Acampora.
 25 We're going off the record. The time is
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1 11:11 a.m.
 2 (A brief recess was taken.)
 3 THE VIDEOGRAPHER: We're back on the record.
 4 The time is 11:15 a.m.
 5 And this marks the beginning of Media No. 22
 6 of the deposition of Dr. Anthony Acampora.
 7 MR. LU: Let me just ask the question again so
 8 that the record is clear. We were referring -- we were
 9 discussing paragraph 152 of Dr. Acampora's declaration.
 10 And specifically the phrase: "There is one
 11 mathematical formula specification for taking the
 12 average of a location weighted by signal strength."
 13 BY MR. LU:
 14 Q. And Dr. Acampora, I asked you to describe at a
 15 high level how that average of a location weighted by a
 16 signal strength is calculated.
 17 A. Sure.
 18 MR. BERTIN: Object to form.
 19 THE WITNESS: If we look at column 12 of the
 20 245 patent, beginning at, let's say, line 41. By the
 21 way, there's some confusion in the language of the
 22 specification. One of skill in the art would have no
 23 difficulty cleaning this up.
 24 What's being discussed here is a process
 25 whereby some sort of a weighted average of the measured
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1 GPS location of access points is being performed. Some
 2 sort of a weighted average of GPS measurements for
 3 access point location is being performed.
 4 So as -- in the set of equations, there are
 5 little N such measurements. And the methodology
 6 whereby these measurements are recorded -- is recorded
 7 into specification -- involves running a van equipped
 8 to make these measurements specifically deployed to
 9 make these measurements up and down every street in the
 10 area, trying to cover each street a minimum number of
 11 times. But having done that and having recorded by
 12 means of this van driving Chinese postman algorithm
 13 route, let's suppose N measurements were made.
 14 Let's label those "1 through N." That's what
 15 the subscript "I" means in line 42.
 16 The paragraph then goes on: "The calculated
 17 access point location is located by" -- it looks to me
 18 like it's also using Lat I and Long I. That's clearly
 19 a mistake. Because we look at the formula, the
 20 calculated location is noted by Lat U and Long U.
 21 So how do we get to the weighted average?
 22 Consistent with how I believe one of ordinary skill in
 23 the art would understand a weighted average. In this
 24 case, each measured location -- let's consider the
 25 latitude first. Let's consider averaging over the N

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1 latitude measurements. Take each measurement, weight
 2 the measurement by a factor that's dependent upon the
 3 signal strength associated with that measurement. And
 4 that factor is, in fact, the fourth root of 10, raise
 5 to the power of that signal strength measurement,
 6 divided by 10.
 7 So that fourth root of 10 raised to the power
 8 of the signal strength measurement divided by 10 is the
 9 power weighting factor associated with Latitude I.
 10 Sum up all N latitude measurements, each
 11 weighted by the appropriate factor, then divide or
 12 normalize by the sum of the weighting factors. Repeat
 13 the exact same process to calculate the location -- or
 14 the longitudinal location -- of the access point.
 15 BY MR. LU:
 16 Q. I'd like to direct your attention to column 6,
 17 line 65 of the same patent, the 245 patent.
 18 It reads: "The location calculations are
 19 produced using as a series of positioning algorithms
 20 intended to turn noisy data flows into reliable and
 21 steady location readings. The client software compares
 22 the list of observed access points along with their
 23 calculated signal strengths to weight a location of a
 24 user to, determine precise location of the device
 25 user."

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1 Do you see that?
 2 A. I do.
 3 Q. And it goes on to say: "A variety of
 4 techniques are employed, including simple
 5 signal-strength, average-weighted models."
 6 Do you see that?
 7 A. I do.
 8 Q. Is that the same technique a simple
 9 signal-strength, weighted average model, as you've just
 10 described, corresponding to that lat/long equation on
 11 column 12?
 12 A. Well, let's put it this way. In this patent,
 13 the equations appearing in column 12, while they're
 14 being described in the context in which they're
 15 presented as being used to calculate the location of an
 16 access point by performing a weighted average of the
 17 measurements of signal strength observed from that
 18 access point, could also be used to compute a weighted
 19 average location of a WIFI-enabled user device, but we
 20 have to make some changes. And, in fact, the changes
 21 are not all that great.
 22 In this case the weighting would be performed
 23 by the user observing in the case of these examples, N
 24 distinct access points, noting the signal strength
 25 received from each of those access points and then

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1 using the calculated -- let's work with latitude
 2 first -- using the calculated latitude for each of the
 3 access points, weight that latitude by the signal
 4 strength that the user observes from that access
 5 point -- the weighting factor again being the fourth
 6 root of 10 raised to the power of the signal strength
 7 divided by 10 -- normalized by -- by summing over the N
 8 weighting factors.
 9 And by the way, the Lat U/Long U result for --
 10 obtained by repeating the same process for the
 11 longitudinal calculation, that "U" might suggest user.
 12 Remember I -- I explained earlier there's a little bit
 13 of confusion in the text that one of skill in the art
 14 could read through, at least as after as the correct
 15 replacement needed to calculate the location of an
 16 access point. Perhaps one would also see, based upon
 17 the language that you just called my attention to
 18 beginning at the bottom of column six and going to the
 19 top of column 7, that these equations might be used to
 20 compute a weighted average of -- of WIFI locations to
 21 determine a user's location -- or at least to compute a
 22 user's location.
 23 How accurate that computation would be is
 24 anyone's guess. But again, the process starts by first
 25 determining -- first measuring latitude and longitude

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1 of -- of access points. Each access point some
 2 multiplicity of times, N, by driving this Chinese
 3 postman route to build up some sort of a -- a database
 4 of computed locations for access points, then applying
 5 the -- those computations to further compute the
 6 location of a particular WIFI-enabled user.
 7 Q. Okay. So in other words --
 8 A. So that's how weighting would be performed.
 9 And that's a long answer. But then again, there's a
 10 considerably amount of math involved.
 11 Q. Okay. But to summarize what we're talking
 12 about here in the simple, signal-strength, weighted
 13 average model is you calculate an average of latitude
 14 and longitude locations of access points by taking a
 15 multiplication of each signal strength measurement,
 16 putting on some weighting factor to weight stronger
 17 signal strength readings more than weaker signal
 18 strength readings, and that's used to determine the
 19 location of a user device, correct?
 20 MR. BERTIN: Object to form.
 21 THE WITNESS: Well, I -- I -- I -- I -- a few
 22 things were thrown in there.
 23 BY MR. LU:
 24 Q. Okay.
 25 A. And I'm not sure we're not doing apples to

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1 apples.
 2 Q. So let me break that up.
 3 So what we're talking about here is
 4 calculating an average, correct?
 5 A. When you say "we're talking about here" --
 6 Q. So when we're -- what we're talking about in
 7 column 6, line 65 through column 7, line 3, which is,
 8 as you described, a weighted average technique,
 9 correct?
 10 MR. BERTIN: Object to form. Mischaracterizes
 11 earlier testimony.
 12 THE WITNESS: Well, so far, we haven't got
 13 into weighted average. All it says here is "the client
 14 software compares a list of observed access points
 15 along with their calculated signal strengths to weight
 16 the location of the user to determine the precise
 17 location of the device user."
 18 That language in itself is really -- it -- it
 19 it -- it's not the clearest language. I think I know
 20 what it means, but it's not clear. But so far we
 21 haven't gotten to -- I -- I don't see average up here.
 22 BY MR. LU:
 23 Q. Okay. So the average appears in the exact --
 24 the next sentence. "A variety of techniques are
 25 employed, including signal -- simple, signal-strength,

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1 weighted average model."
 2 Do you see that?
 3 A. I do.
 4 Q. Okay.
 5 A. But again, this is -- the language is
 6 really --
 7 Q. Understand.
 8 A. -- not the clearest.
 9 But I think one would understand from what's
 10 being discussed here is that a user could measure
 11 signal strength received from some number of base -- of
 12 access points and weight the location of each access
 13 point in some fashion in a way dependent upon the
 14 signal strength we see from that access point to
 15 compute its own location.
 16 Q. And so that would be a simple, signal-strength
 17 weighted average model, correct --
 18 MR. BERTIN: Object to form.
 19 BY MR. LU:
 20 Q. -- what you just described?
 21 A. That -- that might be one example, which I
 22 think would be consistent with the construction that
 23 I've suggested for the phrase "simple, signal-strength,
 24 weighted average model."
 25 Q. Okay. Is it possible to calculate a location

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1 using a simple strength -- strike that.
 2 To determine location, is there -- with -- if
 3 you have multiple WIFI access points, each having
 4 different -- strike that.
 5 If you have multiple WIFI access point
 6 locations, each having different signal strengths, does
 7 it make any sense to take an average of the signal
 8 strengths for the purpose of calculating location?
 9 MR. BERTIN: Object to form.
 10 THE WITNESS: With all due respect, I have no
 11 idea what you just asked.
 12 BY MR. LU:
 13 Q. Well, quite frankly, I have no idea what I
 14 asked there either. Okay. Let's move on.
 15 I'd like you to turn to paragraph -- page 6 of
 16 your declaration. Section two, the patents in suit.
 17 A. If you could hold on just a second.
 18 Q. Sure.
 19 A. I just need to tidy up to remove the blizzard
 20 of paperwork. Page 6.
 21 Q. Page 6, section 2, the patents in suit,
 22 subsection A, background and description of the claimed
 23 invention, paragraph 20.
 24 A. I'm there.
 25 Q. Okay. I'd like you to turn to the last

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1 sentence of paragraph 20 which reads: "Then by
 2 responding to user queries reporting the identities of
 3 those access stations that are observable to the user
 4 of a WIFI device, the database provides location
 5 information for the access points used to estimate the
 6 location of the WIFI device itself."
 7 Do you see that?
 8 A. I do.
 9 Q. What do you mean by that sentence?
 10 A. Just give me a moment to put it in context.
 11 Okay. So there are actually a couple of
 12 points here. First, the paragraph is describing the
 13 creation and updating of the database; that database
 14 created by systematically -- as it states --
 15 "systematically scanning for access points." So this
 16 is not casually or accidentally scanning. This is sort
 17 of deliberate, intentional scanning for access points.
 18 You have to go out there and specifically -- with the
 19 specific mission of scanning for access points.
 20 Q. And that's your definition --
 21 A. Let me finish, please.
 22 Q. Let me just clarify.
 23 A. I'd like to finish the question, if I may.
 24 I'd like to finish my answer, if I may.
 25 So first, you scan for -- you -- you

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1 intentionally -- one would intentionally scan for
 2 access points. Then based upon the systematic scan,
 3 locations for all of the access points within some
 4 area -- some geographically disbursed target region --
 5 would be -- would be created. Database containing
 6 estimated locations for all access points within some
 7 geographically disbursed target region would be
 8 created.
 9 So first you scan. Based upon these scans,
 10 you estimate locations -- you systematically scan.
 11 Then you estimate locations. And you put into the
 12 database the estimated locations of all access points.
 13 Then the user would make a query and report -- well,
 14 the user makes a query of the access -- of the
 15 database, and responding to these user queries -- let's
 16 get this clear.
 17 The user reports back the identity of access
 18 points that it observes. So it's going to report to
 19 the database, I observed these -- these WIFI access
 20 points. Among all of those that you have located or
 21 that you've obtained location estimates for, these are
 22 the ones that I can see. Based upon that, tell me
 23 where I am.
 24 Well, actually, what -- what the statement
 25 says here is the database would provide the location

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1 information. These are the estimated location
 2 information obtained by this deliberate, systematic
 3 scan of using the scan to compute the estimated
 4 locations of the access points. Then provide, in
 5 response to a user's request, the estimated location
 6 for the access points that were included in the user's
 7 request.
 8 And from that, the location of the WIFI device
 9 would somehow be computed.
 10 Q. Okay.
 11 A. So this is sort of a 10,000-foot overview of
 12 what these patents address -- creation and application
 13 of the database. First, you collect the data by means
 14 of these systematic, deliberate scan, then you apply it
 15 to estimate locations.
 16 Q. You used the phrase "geographic area" in
 17 paragraph 20. Do you see that?
 18 A. Well, no. I use the phrase "geographically
 19 disbursed target region."
 20 Q. No. The top part of paragraph --
 21 A. I do. I see that, yes.
 22 Q. What's the difference between a geographic
 23 area and a geographic region?
 24 A. Well, the -- the target region, I have an
 25 opinion on that.

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1 Q. Well, I'm not talking about target,
 2 Dr. Acampora. I'm just talking about geographic area
 3 versus geographic region. And I think you understand
 4 the -- what I'm getting at here, which is Skyhook's
 5 proposed construction says "geographic area" and
 6 Google's proposed construction has the word "geographic
 7 region." And I'm trying to figure out if there is any
 8 meaningful difference between geographic area and
 9 geographic region.
 10 A. Right. So once again, this is sort of a
 11 10,000-foot perspective. And as we bore in after the
 12 first line just to get to the next layer of the onion,
 13 I'm using terms more precisely.
 14 So what I could have done -- I'm just looking
 15 at what's -- what I've written here. I could have
 16 substituted into geographic area the phrase "geographic
 17 disbursed target region." But I'm not sure that that
 18 would help in terms of this superficial description of
 19 the inventions in terms -- that would help a reader to
 20 understand the invention. So I sort of broke into the
 21 subject more gracefully.
 22 When we get into the -- get deeper into the
 23 meat of the patents, the correct phrase "geographically
 24 disbursed target region." So I loosely characterize
 25 that by the phrase "geographic area" in line 2 of this

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1 10,000-foot overview. And perhaps that's just a
 2 question of style. I try to keep the sensitivity of
 3 the reader in mind in all of my writings by not jumping
 4 right in so that the person feels like they've just
 5 been submerged without -- without a lifeline.
 6 So if we wanted to make this absolutely
 7 precise but perhaps not help in understanding, I could
 8 have substituted "geographically disbursed target
 9 region" for "geographic area" in line 2.
 10 But the precise characterization, as used in
 11 these patents, would be "geographically disbursed
 12 target region." And that target region is the region
 13 which was deliberately scanned to create this database
 14 containing all WIFI -- the locations of all WIFI access
 15 points.
 16 Q. Thank you for that answer. But I'm really
 17 just focusing on the words "geographic area" and
 18 "geographic region" and trying to figure out what the
 19 difference is between a geographic area and a
 20 geographic region.
 21 You know, excluding all of the other
 22 limitations that you argue are present containing -- in
 23 the other parts of this targeted area of claim
 24 construction, I'm just focusing on the fact that
 25 Skyhook uses geographic area, Google uses geographic
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1 region, and trying to figure out what the difference is
 2 between a geographic area and a geographic region.
 3 A. Okay.
 4 Q. And I would note that in page 52 of your
 5 expert report, paragraph 129, you indicate that a
 6 target area is clearly a geographic area. That is not
 7 all that it is.
 8 And again, if a target area is clearly a
 9 geographic area, I'm trying to figure out what the --
 10 why Google insists on having "geographic region" as
 11 part of its claim construction.
 12 MR. BERTIN: Object to form. Argumentative.
 13 Mischaracterizes. I'm not sure if that's a question or
 14 not.
 15 BY MR. LU:
 16 Q. Can you explain why?
 17 MR. BERTIN: Object to form.
 18 THE WITNESS: Well, I thought I just did. And
 19 I'm not sure you asked anything different than what you
 20 asked the first time, so I'm going to stand by my
 21 original answer.
 22 BY MR. LU:
 23 Q. What's the difference between an area and a
 24 region? Let me rephrase that.
 25 What is the difference between an area having
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1 a radius on the order of 10s of miles and a region
 2 having a radius on the order of 10s of miles?
 3 A. In what context?
 4 Q. In the plain and ordinary meaning.
 5 A. Well, are we talking about these patents? Are
 6 we talking about --
 7 Q. Sure. We'll talk about these patents.
 8 What is the difference between an area having
 9 the radius on the order of 10s of miles and a region
 10 having a radius on the order of 10s of miles?
 11 MR. BERTIN: Object to form.
 12 THE WITNESS: The question you're asking me is
 13 a claim construction issue because it's related to
 14 phraseology that we see in the claim. It's a disputed
 15 term, and that's why I asked if what context we're --
 16 we're referring to here. And the context of the
 17 patent -- I don't have an opinion of what an area is,
 18 but I do have an opinion of what a target area is, and
 19 you could read that opinion. It's --
 20 BY MR. LU:
 21 Q. Let me ask it in a different way.
 22 A. Let me finish my answer, please.
 23 Q. Sure. I apologize.
 24 A. You have done that a few times. I really need
 25 to -- to interject.
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1 So as stated paragraph 128, target area -- not
 2 area by itself, but target area -- the disputed term
 3 should be defined as a predefined geographical region
 4 throughout which the shortest route is planned along
 5 all drivable roads.
 6 Now, Skyhook is proposing that that term be
 7 defined as a targeted geographical area. I don't think
 8 that the issue is, what is an area. The issue is, what
 9 is a target area? And in my opinion, it's -- Skyhook's
 10 construction is wrong, not because its use -- because
 11 of its use of the word "area," because it omitted the
 12 characteristics of that area.
 13 So my objection would be just as strong if
 14 Skyhook had said "a targeted geographical region."
 15 That doesn't tell me the salient aspects of the region.
 16 It hasn't really told me what this target area is. So
 17 it's not area versus region that -- that's at issue.
 18 It's what special about this area or region. What
 19 makes it a target area or -- and what does make it a
 20 target area is that it's a predefined geographical
 21 region throughout which the shortest route is planned
 22 along all drivable roads.
 23 That's what the phrase means in the context of
 24 this patent --
 25 Q. Okay. Now looking --
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1 A. -- in the context of the claim.
 2 Q. Now, looking at you usage of the phrase
 3 "geographic region," which you use in paragraph 128,
 4 and your usage of the phrase "geographic area" in
 5 paragraph 129 -- and focusing just on those terms as
 6 you used them, what is the difference between a
 7 geographic area and a geographic region as you use them
 8 in your declaration?
 9 A. Can you ask the question again?
 10 MR. BERTIN: Object to form.
 11 MR. LU: Can you reread the question, please.
 12 Let me break that up.
 13 BY MR. LU:
 14 Q. Let's look at paragraph 128 of your
 15 declaration which uses the phrase "geographic
 16 region" -- your words.
 17 A. I see that.
 18 Q. Let's look at paragraph 129 which uses the
 19 phrase "geographic area." Again, your words.
 20 Do you see that?
 21 A. Well, in paragraph 129?
 22 Q. Paragraph 129.
 23 A. Those are Skyhook's words.
 24 Q. All right. Then let's look at paragraph 6 --
 25 paragraph 20. "Geographic area" -- your words.

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1 Do you see that?
 2 A. I do.
 3 Q. What is the difference between a geographic
 4 area, as you use it in paragraph 20, and geographic
 5 region, as you use it in paragraph 128?
 6 MR. BERTIN: Object to form.
 7 THE WITNESS: I thought I answered this
 8 already, but let me try it again.
 9 In paragraph 20 in the very first sentence --
 10 in fact, it's within the first half sentence of my
 11 superficial characterization of the invention, I use
 12 the phrase "geographic area" just to help the reader
 13 gain an understanding of -- of some context.
 14 Whereas, if we get into -- if I had
 15 immediately tossed out the phrase "geographic disburshed
 16 target region," I don't think it would have been
 17 particularly polite to the reader. So this is just my
 18 style of trying to be gentle -- gently introducing a
 19 new subject to a noninitiated reader. So that explains
 20 my use of the word "area" in paragraph 20. But now
 21 you're mentioning paragraph 20, which is a superficial,
 22 high-level first half-sentence characterization of the
 23 patents, which now we're sort of at ground zero talking
 24 about how these terms should be construed. And I've
 25 offered by opinion as to what the proper construction

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1 is of the phrase "target area."
 2 BY MR. LU:
 3 Q. Okay. Going back to paragraph 128, you use
 4 the words "geographic region" -- your words. Going
 5 back to paragraph 129, you state, "Although a target
 6 area is clearly a geographic area, that is not all that
 7 it is."
 8 Do you see that?
 9 A. I do.
 10 Q. What are you referring to as "that"?
 11 A. The target area.
 12 Q. Okay. And what are you referring to "it"?
 13 A. Well, let me read this here again. Your first
 14 question is what does "that" refer to?
 15 Q. Correct.
 16 A. "That" refers to geographic area. "It" refers
 17 to target area.
 18 Q. Okay. So you have an understanding, do you
 19 not, of what "that" is when you wrote this sentence in
 20 paragraph 129 of your expert declaration, correct?
 21 MR. BERTIN: Object to form. Argumentative.
 22 THE WITNESS: I don't understand the question.
 23 BY MR. LU:
 24 Q. In paragraph 129, "Although a target area is
 25 clearly a geographic area, that is not all that it is."

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1 Do you see that?
 2 A. I do.
 3 Q. And when you refer to "that" in that -- in the
 4 sentence, you're referring to a geographic area.
 5 Do you see that?
 6 A. I do.
 7 Q. Okay. What is your understanding of the
 8 phrase "geographic area" as you used it in the sentence
 9 where you made reference to geographic area?
 10 A. Any old area. It's not any old area.
 11 Q. Okay. And what is the difference between any
 12 old area and a region?
 13 A. Any old area? Any old region? There might
 14 not be much difference. But again, that's -- the issue
 15 in my mind is not use of the word "area" versus use of
 16 the word "region." It -- as explained in paragraph
 17 129, the target area -- the patent doesn't read "target
 18 region." But my answer would be the same if it did
 19 read "target region."
 20 The target area must be proactively defined in
 21 advance. The plain, old, geographic area that would be
 22 inferred from Skyhook's construction is wrong. It's
 23 not any old area. It's an area that must be
 24 proactively identified in advance of the data
 25 collection so the route can be planned. You've got to

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1 define this area with the intention of applying an
 2 algorithm to choose a deliberate route and the Chinese
 3 postman algorithm, which was actually disclosed in the
 4 patent, for purposes of creating the database of all
 5 WIFI access points.
 6 Q. Dr. Acampora, I understand that's the claim
 7 construction that's been proffered by Skyhook -- by --
 8 by -- by Google. I'm just trying to figure out the
 9 difference between a geographic area and a geographic
 10 region. So let me -- let me -- and I don't know why
 11 we're having such a huge difficulty here.
 12 A. Nor do I.
 13 Q. So let me ask some questions.
 14 Would the city of San Francisco be a
 15 geographic area, having a radius on the order of 10s of
 16 miles?
 17 A. Are we in the context of the patent?
 18 Q. We're in the context of the patent. We're in
 19 -- we're just talking about geographic region and
 20 geographic area in the context of the patent.
 21 A. Well, I don't have an opinion on geographic
 22 area. I do have an opinion on target area.
 23 Q. Well, you use the word --
 24 A. So if you ask me, is San Francisco a target
 25 area? Well, San Francisco would be a target area if it

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1 was identified in advance so that the route could be
 2 planned. There's -- there's got to be a route
 3 associated with this target area. The target area was
 4 chosen so that a route can be planned.
 5 Q. You use the phrase "geographic region" in your
 6 declaration, do you not?
 7 A. It's part of my proposed construction for
 8 target area. That's correct. It's a part of it.
 9 Q. And you -- and you use the phrase "geographic
 10 region" separately and apart from your -- from your
 11 proposed construction for target area; is that correct?
 12 A. Can you ask that again? I don't think -- I
 13 didn't -- either I didn't understand that, or it's not
 14 correct.
 15 Q. Well, let me ask you something a little
 16 different.
 17 Is San Francisco a geographic region having a
 18 radius on the order of 10s of miles?
 19 A. Well, my geography might be a little bit
 20 rusty, but I believe the answer to your question is no.
 21 Q. Is the city of New York a geographic region
 22 having a radius on the order of 10s of miles?
 23 A. Again, my geography may be rusty, but -- well,
 24 I don't know. It might be.
 25 Q. Let's go back to page 6 of your declaration,

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1 paragraph 21. You mention that "their discovery, if
 2 any, appears to be a deliberate and possibly
 3 unachievable effort to improve the accuracy with which
 4 the location of a WIFI device might be determined by
 5 improving the collection process to only scan WIFI
 6 access points as described in the patents."
 7 Do you see that?
 8 A. I do.
 9 Q. What do you mean by "deliberate effort"?
 10 A. Not accidental. It's not casual. It's not
 11 random. It's -- it's an attempt to determine how to
 12 scan an area or region in such a way as to improve
 13 accuracy relative to some other scheme that was not so
 14 deliberately planned. This is sort of active
 15 measurement. I planned this in advance. I know
 16 exactly what I'm going to measure, where I'm going to
 17 measure, and why I'm going to choose this route. This
 18 route is expected to yield a superior result relative
 19 to something that was more casually or less
 20 deliberately planned in advance. This is not an
 21 accident. This was intentional. I planned exactly how
 22 I was going to scan to achieve some objective.
 23 And the objective appears to have been: Be
 24 sure that every street is scanned the minimum number of
 25 times.

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1 Q. Now, why do you say it's unachievable, this --
 2 A. No. The phrase I used was possibly
 3 unachievable.
 4 Q. Possibly unachievable. Why do you say it's
 5 possibly unachievable?
 6 A. There's no -- I don't think there's any
 7 assurance, a priori, that using the Chinese postman
 8 routing algorithm to scan an area of access points is
 9 going to result in any improved accuracy.
 10 Q. And what is the basis for that opinion?
 11 A. Counter examples. Simplest example would be:
 12 Suppose I have a set of access points located on --
 13 along one street. And using this Chinese postman
 14 algorithm, I'm actually going to drive around the block
 15 and observe that access point from all sides. Because
 16 I've observed the access point from all sides, using
 17 the techniques disclosed in this patent, I'm going to
 18 compute a location of each of those access points
 19 that's interior to the street on which they're actually
 20 located.
 21 Whereas, if I had scanned only the street in
 22 which their located, I would have gotten -- I would
 23 have at least known the access points were on that
 24 street. I would not -- I would not have produced a
 25 calculated position that was interior to the street

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1 within, let's say, the square block. So that's --
 2 that's an example of how scanning in this fashion would
 3 actually produce inferior results relative to not
 4 scanning along each street.
 5 Q. Any other counterexamples?
 6 A. Yeah. I'll try to keep this simple.
 7 There's another issue at play in wireless
 8 communications. I'm going to characterize another
 9 issue as propagation phenomenon. Radio waves -- you
 10 might think that the closer you are to a transmitter,
 11 the stronger will be the observed signal strength, and
 12 that is not true. I could be very close to a
 13 transmitter, but because there's a large building
 14 blocking line of sight to that transmitter, I would
 15 receive a very weak signal. Namely, that signal that's
 16 either penetrated the building or is scattered around
 17 other objects and sort of comes in from the back side.
 18 And at the same time, it would be quite a distance from
 19 the access point or from -- from the transmitter. But
 20 there may be only open space between transmitter and
 21 me, no shadow-fading, as we call it in the art, and I
 22 would receive a much stronger signal.
 23 The end result is because of these various
 24 propagation effects, you really can't ensure that
 25 you're going to improve anything simply by driving

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1 every street, relative to some other strategy. In
 2 fact, we had some discussion earlier about the siting
 3 of cell towers.
 4 Part of the design process of siting the cell
 5 towers is to use geographical information system
 6 databases showing where the buildings are; in some
 7 cases, where the air-conditioning units are sitting on
 8 top of the buildings, taking a vast amount of
 9 information into account before determining where those
 10 base stations should be located to ensure that you've
 11 got decent penetration.
 12 Simply driving up and down the streets without
 13 taking into account geographic information about the
 14 buildings, the heights, sizes, location of objects on
 15 top of the buildings, topology of the land itself, I
 16 don't see that it's providing -- that it is, a priori,
 17 providing any benefit because of the randomness of the
 18 propagation effects relative to a more casual -- a
 19 totally nondeliberate approach. Maybe it's better;
 20 maybe it's not.
 21 By the way, there's another propagation effect
 22 called multipath, and that compounds the problem even
 23 further. So I -- I don't think there's any reason to
 24 think this is going to be better. It may be
 25 unachievable. It may not be possible to improve the

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1 accuracy.
 2 Q. What do you refer to as a "totally
 3 nondeliberate approach"?
 4 A. Passively listening wherever you happen to be.
 5 It might be -- that would be one example of a
 6 nondeliberate approach. But deliberate approach, once
 7 again, is an approach that's intentionally designed to
 8 capture every access point in such a way as to -- as to
 9 reduce the uncertainty of the calculated location by
 10 driving every street and trying to drive each street
 11 once -- Chinese postman -- the Chinese postman
 12 algorithm.
 13 Q. Next sentence says: "What they apparently
 14 believed that they discovered is what they described as
 15 a more accurate way to create a database of WIFI access
 16 point locations by deliberately taking measurements in
 17 some sort of systematic fashion."
 18 Do you see that?
 19 A. I do.
 20 Q. What do you mean by "deliberately taking
 21 measurements in some sort of systematic fashion"?
 22 A. Well, as I just described -- in this patent,
 23 one starts out with the expressed purpose of creating a
 24 database of WIFI access point locations. So my intent,
 25 a priori, is to do this.

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1 I equip a van. I go out. I take
 2 measurements. And I'm taking these measurements for
 3 the clear objective of using these measurements to
 4 create this database of WIFI access point locations.
 5 And not only am I deliberately taking measurements, but
 6 I'm taking these measurements in a systematic fashion.
 7 This is not a fashion disclosed in the patent to cover
 8 each street at least once and the fewest times by means
 9 of a Chinese postman approach -- Chinese postman
 10 routing algorithm -- which the inventors apparently
 11 believe will result in a more accurate database
 12 containing calculated WIFI locations.
 13 Q. So you keep referring to this Chinese postman
 14 algorithm. What do you understand to be the Chinese
 15 postman algorithm?
 16 A. Okay. Well, there are a whole class of
 17 problems in optimization theory involving graphs and
 18 objective functions and constraints. And one of these,
 19 as an example, is the traveling salesman problem. That
 20 problem can be state as I'm a salesman. I've got to
 21 visit a bunch of cities, and I want to plan my route in
 22 advance so that I hit each city. I must cover each
 23 city. I can't leave any out, but I want to drive the
 24 shortest distance. So what -- what's the sequence of
 25 cities that I should visit to accomplish that?

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1 Second problem, same nature, is the Chinese
 2 postman problem. Here, I've got a graph defined by
 3 edges. And what I want to do is ensure that I drive
 4 along each edge -- I cover each edge in such a way that
 5 the total distance that I've driven is as small as
 6 possible.
 7 Q. And what do you mean that it's an
 8 optimization?
 9 A. The problems of this type are known as
 10 optimization problems in the field.
 11 Q. Why are they optimization problems?
 12 A. Well, notice I said I'm trying to minimize the
 13 distance covered. So I'm optimizing my route to
 14 achieve some objective function. The objective in this
 15 case being to minimize the distance traveled. And
 16 there's a cost associated with -- in the Chinese
 17 postman example, there's a cost associated with each --
 18 with each link, namely its distance. When I drive this
 19 link, I've accrued a certain distance. What I'm trying
 20 to do is add up all those distances so that the total
 21 is as small as possible but such that the subject can
 22 be restrained at each edge -- is covered at least once.
 23 I can cover an edge twice in order to minimize the
 24 distance, but each edge has to be covered at least
 25 once, and I need to cover -- I need to do that in the

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1 shortest distance total.
 2 Q. But one could drive other routes that cover
 3 each edge at least once but that don't minimize the
 4 distance, correct?
 5 MR. BERTIN: Object to form. Mischaracterizes
 6 testimony.
 7 THE WITNESS: Well, are you saying can I drive
 8 some other route that covers each edge but doesn't
 9 minimize the distance?
 10 I suppose that one could do that, but that's
 11 not what's in the patent. Because if you were to do
 12 that -- one way to do it is -- just to make up an
 13 example -- just take Manhattan, rectangular streets and
 14 avenues. And first, just drive up and down each street
 15 when you get to the -- to the edge of Manhattan Island.
 16 You know, make a right turn, go to the next street,
 17 drive down, so forth and so on. When you get to the
 18 northernmost boundary, repeat the process by now
 19 driving the avenues of, first, north to south and south
 20 to north and complete the process. Except along the
 21 way, for whatever reason, I decide I'm going to
 22 backtrack and cover three streets 10 times.
 23 Now, using your criteria, I would have covered
 24 every edge, but that would be contrary to what's
 25 actually taught in the patent. Because if I were to do

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1 that -- remember the purpose of driving in this
 2 deliberate fashion in the patent is to scan for WIFI
 3 access points, and I would have recorded the same
 4 access points more times along the streets that I drove
 5 multiple times. And that would not accomplish the
 6 objective of creating a more accurate database.
 7 Remember here, you need to cover each street at least
 8 once, but try to cover each street the fewest time in
 9 order to ensure that you've got each street covered
 10 once, and you haven't spent, you know, three days
 11 driving up and down in order to collect the data. So
 12 the -- the patent was pretty deliberate in terms of --
 13 of disclosing how to accomplish this routing for the
 14 purposes of scanning the WIFI database -- the WIFI
 15 access points.
 16 BY MR. LU:
 17 Q. So that alternative route would be a
 18 nonoptimized route, correct?
 19 A. The alternative route would -- would not have
 20 accomplished the objectives of the invention; that's
 21 correct. And if that's what you mean by not optimized,
 22 then it would not be optimized.
 23 Q. Well, I'm referring to optimized in terms of
 24 what you've been referring to optimized, which is
 25 minimizing the distance that's covered.

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1 A. In this case, in the case of this patent, that
 2 is a criteria.
 3 Q. And so a --
 4 A. That's what the Chinese postman problem --
 5 that's the problem the Chinese postman solution
 6 addresses.
 7 Q. And so there are other routes that do not
 8 drive a Chinese postman route that would cover each and
 9 every street and each and every corner, but it would
 10 not be optimized because the distance covered would be
 11 greater than the Chinese postman algorithm route?
 12 A. It -- it -- it's worse than that. It's not
 13 just the distance wouldn't be minimized, but it's also
 14 the fact that you will have covered -- you may have
 15 covered each street many times, which you don't want do
 16 if -- if -- you don't want to do unnecessarily because
 17 that will introduce errors that the invention, if any,
 18 is intended to avoid.
 19 Q. I'd like you to turn to page 7 and paragraph
 20 22. Second sentence says: "The scanning is performed
 21 using a Chinese postman format to drive each street a
 22 minimum number of times and preferably only once to
 23 avoid introducing a bias towards certain streets."
 24 Do you see that?
 25 A. I do.

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1 Q. What is your understanding of that? What --
 2 what were you trying to say in that sentence?
 3 A. Well, the -- the patent describes this
 4 phenomenon that the inventors characterize as being
 5 arterial bias. And they describe that as if -- if you
 6 drive only certain streets in accordance with the --
 7 how they believe these measurements would be made and
 8 used, the only recorded locations that you will make
 9 for the access points were along those streets. You
 10 won't actually record an actual location of an access
 11 point. The only recorded locations correspond to
 12 positions where the measurements were made. And if
 13 you're driving only on certain streets, then all of the
 14 measurements would result in a location on the driven
 15 streets. So it would be a bias in the database in the
 16 computer location of an access point toward the driven
 17 streets.
 18 And with the invention -- what the -- which is
 19 all over this patent -- is an objective of avoiding
 20 that type of bias by driving in a deliberate way to
 21 ensure that you've covered each and every street,
 22 eventually eliminating the bias. That's what the
 23 inventors believe, in my opinion, that their invention
 24 accomplishes.
 25 Ultimately, not to just reduce the bias --

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1 because that would be sort of a relative thing -- but
 2 to eliminate the bias. Avoid the bias.
 3 Q. So by avoiding the bias, you eventually
 4 eliminate the bias?
 5 A. Well, I think that was the objective. And --
 6 and again, we had some discussion earlier as to why I
 7 believe that's unachievable or why I believe you're not
 8 necessarily even producing an improvement of any -- by
 9 any measure.
 10 Q. So I'd like you it turn to figure 3 of
 11 Exhibit 1, which is the 988 patent. It should be in
 12 front of you.
 13 A. And what figure was that?
 14 Q. Figure 3.
 15 A. Okay.
 16 Q. Now, figure 3 is titled "Example Scanning
 17 Scenarios Showing Arterial Bias."
 18 Do you see that?
 19 A. I do.
 20 Q. Can you explain what your understanding is of
 21 what's depicted in figure 3?
 22 A. Okay. First of all, I'm actually looking in
 23 column 7 of the specification, line 64. Well, let's
 24 back up a little.
 25 Line 61. "The model does, in fact, provide a

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1 simple means to collect data. But the quality of the
 2 resulting data is negatively affected due to issues of,
 3 quote, 'arterial bias,' unquote. Figure 3 describes
 4 the challenge of the random model."
 5 So what the -- and -- and what the inventors
 6 then -- let's go on just a little bit further. "When
 7 scanning vehicles traverse routes designed to solve
 8 other problems other than gather data; e.g. delivering
 9 packages, people commuting to and from work, they tend
 10 to follow destination routes. And the destination
 11 route is when a driver needs to get from point A to
 12 point B and seeks the fastest route to get there."
 13 So what they're describing here -- and this
 14 may well be understood to what a skill of the art is --
 15 one way to collect data is randomly. So secondarily,
 16 there's another objective of actually collecting the
 17 data -- collect some data. But because your doing this
 18 secondarily, you're not going to plan you're route in
 19 advance to improve the accuracy of the result in the
 20 database. You're going to accept what you get. And
 21 they characterize that as being random. And there's a
 22 whole bunch of discussion of why that's bad and why
 23 that shouldn't be done. And I believe that the
 24 inventors even used these phrases -- and we can talk
 25 about later if you care to -- in prosecution history

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1 the other invention was not -- they were teaching away
 2 from the random model.
 3 But this random model -- what they're showing
 4 in figure 3 is how you get in double with this random
 5 model here. Because these -- the primary use -- the
 6 primary purpose of traveling was for -- was other than
 7 determining location of access points or measuring
 8 access points. The -- the example would be your
 9 delivery person. You're driving to and from work.
 10 You're likely to drive along arteries 304 and 305. And
 11 accordingly, you're going to record the location, let's
 12 say, of access point 302. As you're driving along 304
 13 and 305, you're going to record the location for access
 14 point 302 each and every time as being along -- either
 15 along artery 304 or along artery 305 because that's
 16 where you're driving. And the measured location
 17 corresponds to where you are, not where the access
 18 point is. That's the problem.
 19 So all of the recordings for the particular
 20 access point will be along either 304 or 305, hence
 21 arterial bias. There's a bias in the computed location
 22 of the access point computed by -- considering all
 23 these measurements that were made along 304 and 305 to
 24 be a bias toward the arteries. And as an example, if
 25 you were to be -- the inventors seem to believe that if

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1 you drove around the block encircul- -- encircling 301
 2 and measured the -- and -- and -- and -- and observed
 3 the signal from 301 as you're traveling around the
 4 block, and then some sort of -- some sort of an average
 5 of the recorded locations as you drive around the
 6 block, you will -- you will somehow avoid this arterial
 7 bias. Because now you're getting measurements on
 8 different sides of the access point rather than always
 9 on one side.

10 So that's probably more than you asked for,
 11 but figure 3 is showing the -- their example of how
 12 this random data collection scheme -- where you're not
 13 deliberately planning the route, and doing this
 14 primarily for the purposes of scanning access points,
 15 can get you into trouble.

16 Q. Now, you say that the inventors believe this.
 17 You -- you -- you disagree?

18 A. We discussed that earlier. It may or may not
 19 help.

20 Q. So turning to figure 4, what is your
 21 understanding of what occurs in figure 4?

22 A. Okay. So now, let's go to column 8, beginning
 23 at line 28. This is sort of an alternative to the
 24 random data collection scheme -- what they call a
 25 "random model."

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1 Another approach is to develop routing
 2 algorithms that include every single street in the
 3 target area so as to avoid arterial bias in resulting
 4 collection of data, thus producing a more reliable
 5 positioning system for the end users. Figure 4
 6 describes an optimized routing algorithm, known as a
 7 Chinese postman, to calculate the most efficient
 8 driving route for covering every street in the target
 9 area. The Chinese postman routing algorithm is a known
 10 technique used by postal agencies, utilities, and
 11 census agencies, and is in a variant -- is a variant of
 12 the -- you -- you -- Eulerian cycle problem. The
 13 Eulerian cycle problem is a problem asking for the
 14 shortest tour of a graph which visits each edge at
 15 least once, and then there's a reference given.

16 This is exactly what we were tack about
 17 earlier. And figure 4 is an artist rendition of
 18 Chinese postman routing where every street is covered
 19 at least once, and only one, two, three, four, five --
 20 if I'm counting correctly -- it looks like only five
 21 edges are covered twice. One, two, three, four. It
 22 looks like 15 edges were covered once, and five were
 23 covered twice.

24 So the invention involves applying, if -- if
 25 any -- involves applying this type of routing that I --

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1 I just -- I could reread the text, if you like -- this
 2 type of routing to -- intentionally to scan for access
 3 points to produce what the inventors believe will be a
 4 more accurate database of estimated access point
 5 locations.

6 Q. Now, looking at figure 3 and the locations of
 7 the WIFI access points -- the actual locations of the
 8 WIFI access points, which are denoted in black -- and
 9 the calculated locations of the WIFI access points that
 10 are denoted in the white squares, would you agree
 11 that -- at least using those locations shown in
 12 figure 3 -- that driving the Chinese postman algorithm,
 13 as shown in figure 4, would produce the calculated
 14 locations as shown in figure 4?

15 A. Would I agree?

16 Q. Would you agree?

17 A. Well, I neither agree nor disagree. This was
 18 the inventor's example of Chinese postman that, in
 19 accordance with this example, produced a calculated
 20 location. Again, you're quite right. These are the
 21 white diamonds that are closer to the actual location
 22 of the access point. So we're seeing the calculated
 23 locations. If we look at figure 4, one calculated
 24 location is 402, and it appears to be reasonably close
 25 to the actual location of the access point. That's the

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1 solid circle, the dot.

2 But I could create an example where I could
 3 populate this one block with buildings and you would
 4 not have gotten that -- that result of the calculated
 5 access point 402 being closer to -- being closer to the
 6 actual access point.

7 So this is just an example that they created
 8 to show how to apply their -- the teachings of their --
 9 of their invention or of their patent. So as they made
 10 it up, the result is better. Sure.

11 Q. Have you ever heard the term "reverse
 12 triangulation"?

13 A. That's a pretty ill-defined phrase. And
 14 that's one where I needed to go back to the
 15 specification to see what the authors meant. That
 16 doesn't have a well-known meaning in the art.

17 MR. LU: Why don't we take a break for lunch.

18 MR. BERTIN: Sounds good.

19 THE VIDEOGRAPHER: We're off the record. The
 20 time is 12:24 p.m.

21 (A luncheon recess was taken.)

22 THE VIDEOGRAPHER: We are going back on the
 23 record. The time is 1:30 p.m.

24 BY MR. LU:

25 Q. Dr. Acampora, I had a question about the

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1 Google's claim constructions. Did you have a role in
2 formulating the initial claim constructions that were
3 provided by Google to Skyhook?
4 A. I certainly participated in some discussion
5 before Google's claim constructions were fully
6 formulated. So if that means I had a role, then the
7 answer is, yeah, I suppose so.
8 Q. The language of the claim constructions, who
9 created that language? Who wrote that down?
10 A. Well, mechanically, not me.
11 Q. Whose language was it in the claim
12 constructions? Was that something prepared by the
13 attorneys?
14 A. Well, that's -- again, that's -- that's not --
15 to say "yes" would be misleading, and to say "no" would
16 also be misleading. So I was certainly consulted
17 before these phrases were construed. I offered
18 opinions.
19 As best I can recall, somebody then tried to
20 capture some of those opinions. I suggested
21 modifications to what -- what had been captured. And
22 eventually, we see what's been produced.
23 Q. Do you have, sitting here today, any
24 disagreement with any of the claim constructions that
25 Google has proffered in this case?

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1 A. Well, can I see those claim constructions?
2 Q. Sure. Why don't you --
3 A. Because I don't think I offered opinions on
4 everything that is included in Google's claim
5 constructions. I was asked to offer opinions on
6 certain phrases, some of which I felt were -- were
7 absolutely essential that opinions be offered, and some
8 of which I was just asked what I thought -- how I
9 thought these terms could be construed.
10 Now, I don't think that all the terms that are
11 in dispute are included in my declaration. So I would
12 need to look at the Google briefs, if you will, to see
13 what Google's constructions might be on some other
14 issues.
15 Q. Are you being offered up -- strike that.
16 So are the claim constructions for which you
17 are offering opinions in this case limited to the ones
18 in your declaration?
19 A. Yes.
20 Q. And do you disagree with any aspects of the
21 claim constructions that Google has taken as offered up
22 in your declaration?
23 A. Once again, I would need to see the Google
24 constructions to be sure that -- well to -- to be able
25 to answer that question one way or other.

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1 Q. The Google --
2 A. The -- I would need to see Google's
3 constructions to see how closely they -- they conform
4 to my opinions.
5 Q. Okay. Are you -- did you -- did you review
6 Google's claim constructions which are part of Susan
7 Baker Manning's declaration?
8 A. Well, okay. Again, I'm not sure what you're
9 asking. At what point in time?
10 Q. When you prepared your declaration or
11 immediately after.
12 A. Okay. Now, I didn't review the -- let me be
13 sure that I get the chronology correct. I don't
14 believe I reviewed the final briefs on this matter that
15 was submitted by Google before I prepared my report.
16 That does not mean that I didn't have a discussion
17 concerning what the contents of those briefs might be.
18 But if you're asking whether I reviewed and approved
19 beforehand, the answer is no.
20 Q. The claim constructions that you provide in
21 your expert declaration, those are claim constructions
22 that you agree with, correct?
23 A. Well, that's not quite true either.
24 These are my opinions as how the phrases -- as
25 some of the phrases in dispute should be properly

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1 construed. And I also offer opinions as to the
2 indefiniteness of some of the phrases that are in
3 dispute. So these -- what is in my declaration
4 represent my opinions. I'm neither ratifying or not
5 ratifying anything else. I'm simply expressing my
6 opinions on these terms.
7 I'm also offering some comments as to why, in
8 some cases, I believe that Skyhook's construction is
9 incorrect.
10 Q. Do you have opinions about how claims should
11 be construed that are not articulated in your expert
12 report?
13 A. Can you ask that again?
14 Q. Do you have any opinions upon how the claims
15 ought to be construed differently that are not in your
16 expert report?
17 MR. BERTIN: Object to form.
18 THE WITNESS: I would need to look at some of
19 the claims in dispute before I could answer that.
20 BY MR. LU:
21 Q. So it's possible that you may have an opinion
22 regarding how a claim ought to be construed that is
23 different than the opinion that is expressed in your
24 expert declaration; is that correct?
25 MR. BERTIN: Object to form.

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1 THE WITNESS: I'm going to have to play back
 2 the question that I think you're asking because I'm not
 3 sure it came out this way.
 4 I think you're asking about terms about which
 5 I have not expressed an opinion in my report. And
 6 you're asking do I agree with Google's construction of
 7 those terms or do I have an opinion that's different
 8 than Google's construction of these terms? These are
 9 terms that are not -- that -- that -- that I haven't
 10 offered an opinion in my report.
 11 BY MR. LU:
 12 Q. That is not my question.
 13 A. Oh, that's not your question. Okay. Then --
 14 Q. My question focused on --
 15 (Reporter interruption.)
 16 MR. LU: Sorry about that.
 17 BY MR. LU:
 18 Q. My question focused on the claim constructions
 19 that you offered up in your report.
 20 Do you have any opinions that those claim
 21 terms can be construed differently than the claim
 22 constructions opinions that you have offered up in your
 23 report?
 24 A. I have no opinions in that regard, no. I
 25 believe that I've offered up the correct construction
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1 for the terms on which I've offered an opinion where
 2 there is a construction, possibly. In some cases I
 3 think the terms are indefinite.
 4 Q. Okay. Are you aware that Google has modified
 5 its claim construction with regard to weighted simple
 6 average -- weighted, simple, signal-strength average?
 7 Strike that.
 8 Are you aware that Google has offered up a
 9 different claim construction now for simple,
 10 signal-strength, weighted, average model?
 11 A. Different relative to when?
 12 Q. Different relative to the one expressed in
 13 your report.
 14 A. I believe you might have mentioned that
 15 earlier today. That would -- that's my only awareness.
 16 Q. So you did not have any discussions with
 17 Google regarding the claim term "simple,
 18 signal-strength, weighted, average model" and a
 19 possible new claim construction for that claim term,
 20 correct?
 21 MR. BERTIN: Object to form.
 22 THE WITNESS: Yeah. So again, I'm going to
 23 need to play back the question that I think --
 24 MR. LU: Let me --
 25 THE WITNESS: -- the question that I heard.
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1 BY MR. LU:
 2 Q. Let me ask it differently.
 3 A. All right.
 4 Q. Subsequent to your offering up this
 5 declaration, did you have any discussions with Google
 6 regarding the meaning of simple, signal-strength,
 7 weighted, average model?
 8 A. Well, okay. My declaration was signed on
 9 September 14th. So are you asking me whether I had
 10 any discussion with Google concerning the construction
 11 of that phrase subsequent to then and prior to today?
 12 Q. Subsequent to then, yes.
 13 A. Or -- well, subsequent to then and prior to
 14 when Google agreed to some other -- or Google offered
 15 up some other construction, assuming that they did?
 16 No.
 17 Q. I'm afraid I don't understand your question.
 18 A. Okay. I'm trying to bound -- I'm trying to
 19 bound -- create some bookends around the time frame.
 20 Subsequent to the time I signed this report
 21 and prior to whenever Google might have modified its
 22 construction, if it did, I had no discussion with
 23 Google on that particular phrase.
 24 Q. Have you had any discussion with Google
 25 subsequent to -- regarding the construction of that
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1 claim phrase subsequent to your assigning the report,
 2 question mark?
 3 A. Yeah. The reason -- I'm actually not -- not
 4 sure of that. I did meet with Google -- well, with
 5 Mr. Bertin yesterday. I don't recall if that phrase
 6 was discussed or not, but I don't have an overt
 7 recollection of it. But if there was any discussion,
 8 it would have been then.
 9 Q. So Dr. Acampora, what is your understanding of
 10 the claim construction process?
 11 A. Again, I'm not sure that I understand that
 12 question. So once again, I'm going to need to play
 13 back the question I think you asked and then answer
 14 that.
 15 Q. Let's -- let's answer the questions that I
 16 ask, which --
 17 A. I don't understand the question.
 18 Q. Okay. You've been involved in as a -- as a
 19 expert witness in -- I think you mentioned at least
 20 five Markman hearings, correct? Testified?
 21 A. Well, I don't think the number was that high,
 22 but I -- I certainly have testified at some
 23 single-digit, fewer than five, Markman hearings,
 24 excluding tutorials.
 25 Q. All right. And how many declarations or
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1 expert reports have you submitted in connection with
 2 claim construction in your role as an expert witness?
 3 A. Rough estimate, 20.
 4 Q. So do you have an understanding of the process
 5 of construing a claim in a court in a patent case?
 6 A. Well, I don't know. And the reason I don't
 7 know is in each and every instance among these
 8 approximately 20, including the current matter, I was
 9 provided with a set of instructions that I was asked to
 10 follow in performing my opinions. Those instructions I
 11 understand.
 12 Whether they conform to some other criteria
 13 that you're alluding to, I'm not a lawyer. I don't
 14 know. But I do know the instructions that I was
 15 provided with, and I'd be happy to tell you what they
 16 are. And these are the -- these are the instructions
 17 that I followed in forming my opinions.
 18 Q. So you don't have any formal legal training in
 19 patent law?
 20 A. That's correct.
 21 Q. Okay. And as you mentioned, you are not a
 22 lawyer. You have no JD?
 23 A. That's correct.
 24 Q. So where are the instructions that you
 25 followed for the purposes of the -- of construing the

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1 claims in this particular case?
 2 A. They begin on page 26 of my declaration.
 3 Q. That's the section that's labeled "claim
 4 construction principles"?
 5 A. That's correct.
 6 Q. And where do they end?
 7 A. They appear to end on page 28. But without
 8 reviewing the entire document, I don't know if there
 9 may be any other claim construction principles
 10 appearing elsewhere in my declaration. There are none
 11 that I'm aware of right now. I believe they're all
 12 contained in these four pages.
 13 Q. Other than the claim construction
 14 principles --
 15 A. Three pages.
 16 Q. Sorry.
 17 Other than the claim construction principles
 18 that are listed in pages 26, 27, and 28, and what may
 19 appear elsewhere in your declaration, were you provided
 20 any other instructions regarding how claim construction
 21 is to proceed?
 22 A. Not to apply a -- a term that is sprinkled
 23 throughout my report of indefinite -- but I find your
 24 question indefinite.
 25 What time frame would you be referring to now?

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1 Q. In preparing your report, were you provided
 2 any principles of claim construction that are not
 3 articulated in your report or declaration, including
 4 the claim construction principles listed on page 26,
 5 27, and 28?
 6 A. Okay. There may have been some additional
 7 discussion with regard to claim construction principles
 8 that I was exposed to as I was preparing my
 9 declaration. But the principles that I applied are
 10 contained on these three pages.
 11 Q. Do you recollect what other principles you may
 12 have been exposed to that would not be listed on these
 13 three pages or anywhere else in your declaration?
 14 A. Not that I can recall.
 15 Q. As an expert, what do you understand -- strike
 16 that.
 17 What do you understand your role as an expert
 18 to be in the claim construction process?
 19 MR. BERTIN: Object to form.
 20 THE WITNESS: I believe that it's my role to
 21 offer an opinion as to how one of skill in the art
 22 would view the proper construction -- or would view the
 23 proper construction of these claims to be -- a person
 24 of skill in the art at the time of the inventions. Who
 25 would that person be and how would that person

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1 understand these claims.
 2 BY MR. LU:
 3 Q. Now, you have not applied claim construction
 4 principles in construing these claim terms that are not
 5 listed either on pages 26, 27, and 28 of your expert
 6 report or elsewhere in your declaration; is that
 7 correct?
 8 A. I -- I -- I don't know if that's the same
 9 question or a different question than one or two that
 10 you asked already. It sounded like exactly the same
 11 question. So what I'm going to do is take a couple of
 12 minutes just to read these three pages and then respond
 13 to that question.
 14 By the way, in reading, I immediately see
 15 that -- you asked what my understanding is of the role
 16 of an expert with regard to claim construction, and I
 17 mentioned that -- to the effect that my role is to
 18 offer opinions as to how one of skill in the art would
 19 understand these claims, what it would mean to a person
 20 of skill in the art.
 21 But I need to modify that. I'm looking at
 22 paragraph 59 of my report. "Unless the terms have been
 23 given a special meaning in the patent or related
 24 documents, such as the prosecution history." So there
 25 may be some understanding of how -- of what these

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1 phrases would mean to one of skill in the art. But
 2 they may have been given a different interpretation or
 3 special meaning in the patent or related documents. So
 4 in such case -- in such cases, it would be my role as
 5 an expert to identify that as well.
 6 No.
 7 Q. So all of the principles for claim
 8 construction that you have relied upon for preparation
 9 of your declaration are recited in those three pages of
 10 your expert declaration?
 11 A. The principles that I applied in forming my
 12 opinions as to how these phrases should be construed
 13 are based on these three pages.
 14 Q. Now --
 15 A. The instructions provided to me in these three
 16 pages.
 17 Q. Now, if they were additional legal principles
 18 of which you were not aware, could that influence your
 19 opinion?
 20 A. I don't know.
 21 Q. So it's possible it could influence your
 22 opinion?
 23 A. I -- I -- I don't know. You need -- you need
 24 to give me a specific example.
 25 Q. Let's go through these claim construction

1 knows this is plain and ordinary. It's not used any
 2 differently. And, no, the inventor has specifically
 3 defined this in an unconventional fashion. There are
 4 shades of gray between those two.
 5 And what I did is attempt to find support in
 6 the claim -- the specification and prosecution
 7 history -- as to how one of ordinary skill in the art,
 8 having read all of this, would construe the phrase.
 9 BY MR. LU:
 10 Q. Are there any claim terms for which you
 11 believe the patentee or the inventor specifically
 12 defined the claim term in an unconventional fashion?
 13 A. Well, there are several cases where I believe
 14 the inventors coined phrases or used phrases in an
 15 unconventional fashion. And I even have opinions on
 16 those expressed in my declaration. There may be other
 17 instances where that was done as well, but I don't have
 18 an opinion on that.
 19 Q. Which phrases, in your opinion, were phrases
 20 in which the inventors coined phrases or used phrases
 21 in an unconventional fashion?
 22 A. Reference symmetry, arterial bias, avoids
 23 arterial bias, rules and predefined rules, being
 24 suited, target area, several related terms, calculated
 25 position information, calculated positions of the WIFI

1 principles, and you can explain your understanding of
 2 them to me.
 3 So please explain your understanding of
 4 paragraph 59 of the section in claim construction
 5 principles.
 6 MR. BERTIN: Object to form.
 7 THE WITNESS: My understanding of paragraph 59
 8 is that one of skill in the art would have an
 9 interpretation as to what the words in the claims mean,
 10 unless the terms have been given a special meaning in
 11 the patent or related documents, such as prosecution
 12 history.
 13 So when I read the claims, I'm looking for a
 14 deviation from what the words would ordinarily mean to
 15 a person of ordinary skill in the art in that era. And
 16 I look through the specification -- I look at the claim
 17 itself. I look at the specification. I look at the
 18 prosecution history and other related documents.
 19 And based upon what I find there, I either
 20 conclude, yes, this phrase has a plain and ordinary
 21 meaning, or perhaps some clarification is needed in
 22 light of the specification or the claim language itself
 23 or related documents, or perhaps the inventor has
 24 intentionally defined a phrase to mean X or -- and --
 25 or any variation along this scale of, yes, everyone

1 access points, calculated locations, and recorded
 2 location information.
 3 Q. Let's address each of those.
 4 A. I'm -- I'm not finished.
 5 Substantially, all WIFI access points in the
 6 target area providing a reference database of
 7 calculated locations of WIFI access points --
 8 (Reporter interruption.)
 9 THE WITNESS: Providing a reference database
 10 of calculated locations of WIFI access points in a
 11 target area. And I'm still not finished. The
 12 means-plus-function terms.
 13 By the way, you were asking me earlier how I
 14 applied paragraph 59, and I tried to limit my answer to
 15 only paragraph 59. But there's a whole different
 16 section in my report describing the principles that I
 17 applied for means-plus-function limitations that go in
 18 the instructions, substantially more detailed than what
 19 appear -- appears in paragraph 59. If you'd like me to
 20 discuss those as well --
 21 Q. No. We can address those --
 22 A. And -- so then I guess you don't want me to
 23 list the means-plus-function limitations that may have
 24 a special or unconventional or defined meaning
 25 different than what one of skill in the art might

1 understand, or phrases -- might have been coined
 2 specifically for this patent. So one would have to
 3 read the specification to get an understanding of what
 4 the inventors intended.
 5 Q. So on -- just to seek clarification on that
 6 last answer, are there any means -- are there any claim
 7 terms that you contend are means-plus-function in which
 8 the function has a coined meaning or a deviation from
 9 the plain and ordinary meaning?
 10 A. Yes.
 11 Q. And which ones are those?
 12 A. Well, actually, I think that was a compound
 13 question. I think you first asked which -- which
 14 limitations that I've offered an opinion on that I
 15 believe are means-plus-function limitations, and
 16 they're listed in my report. If you'd like, I can
 17 identify them for you, but they're all there.
 18 Q. Tell you what. We'll address the
 19 means-plus-function elements separately.
 20 So could you tell me whether -- which of the
 21 following -- strike that.
 22 Okay. So is it your view that reference
 23 symmetry is a coined meaning?
 24 A. I believe that reference symmetry is not a
 25 term of art. One would need to under- -- to read the

1 specification to understand what the inventors meant.
 2 And it's only by reading the specification that one
 3 could come up with how -- what the term means, if
 4 anything, as it's used in the -- as it's used in
 5 claims.
 6 Q. So is it a coined meaning, or is it a meaning
 7 that's used in an unaccustomed and unconventional
 8 fashion?
 9 A. Well, in this case, it's so vague that I'm not
 10 sure either of those categories applies.
 11 Q. Is arterial bias a coined term or a deviation
 12 from the ordinary and custom meaning?
 13 A. As it's used in this patent, I believe it's a
 14 coined phrase.
 15 Q. Is "avoids arterial bias" a coined phrase or a
 16 deviation from the ordinary and custom meaning?
 17 A. That's another phrase that I'm not sure has a
 18 construction in the context of this patent and in the
 19 context of the claims. I don't -- I don't think that
 20 -- I think that's a term that's indefinite.
 21 So it's not that the inventors defined the
 22 term and then applied that term in the claim. Here's a
 23 case where I don't -- I -- I think that the phrase was
 24 used throughout the patent, but one could not glean the
 25 proper construction for what it means, avoiding

1 arterial bias.
 2 Q. Now, you do offer up an alternative
 3 construction of eliminating arterial bias for that
 4 claim term, do you not?
 5 A. Well, we need to talk about that too.
 6 Q. Well, my question is: Is "eliminates arterial
 7 bias" a claim construction based on a coined meaning or
 8 a deviation from the ordinary or custom meaning?
 9 A. Well -- well --
 10 MR. BERTIN: Object to form.
 11 THE WITNESS: Well, neither.
 12 BY MR. LU:
 13 Q. Okay. What -- so does -- so you don't offer
 14 up a alternative claim construction for avoiding
 15 arterial bias?
 16 A. I didn't say that. I said we need to talk
 17 about that. That was an earlier question.
 18 Q. Okay. What do we need to talk about? Strike
 19 that. We'll move on.
 20 Is "predefined rules," in your view, a coined
 21 meaning or a deviation from the ordinary and custom
 22 meaning?
 23 MR. BERTIN: Object to form.
 24 THE WITNESS: I think one of skill in the art
 25 would have an a priori understanding of what is meant

1 by "predefined rules. "But when I look at the
 2 application of -- or the use of that phrase in the
 3 claims, I find that that does not conform with any
 4 preconceived notion. In fact, I can't figure out what
 5 it means.
 6 BY MR. LU:
 7 Q. Does "being suited" have a coined meaning, or
 8 is it a deviation from the ordinary or custom meaning?
 9 A. It's basically the same response that I just
 10 gave. "Being suited" might have some -- one of skill
 11 in the art might have some understanding of what that
 12 means. But when you put it into the context of this
 13 patent and especially in the context of the claim, that
 14 meaning breaks down. I don't think that that phrase
 15 has a construction.
 16 Q. Does the phrase "target area" have a coined
 17 meaning, or is it a deviation from the ordinary or
 18 custom meaning?
 19 MR. BERTIN: Object to form.
 20 THE WITNESS: Well -- well, they're the same.
 21 As a coined meaning which is a deviation from what one
 22 might otherwise understand that phrase to mean. The
 23 phrase itself might require some context for one to
 24 understand what it means.
 25 But as it's used in this patent, it's

1 effectively being specifically defined. You'd have to
 2 read the patent to get an understanding of what that
 3 phrase means. How the inventors apply that phrase and
 4 how they use that phrase in the claim is not at all how
 5 one would, in a vacuum, understand that phrase. It has
 6 a special meaning in this patent.
 7 BY MR. LU:
 8 Q. The same would be true of the location terms
 9 "calculated position information," "calculated position
 10 to the WIFI access points," "calculated locations," and
 11 "recorded location information"?
 12 A. Are you asking my -- would my answer be the
 13 same?
 14 MR. BERTIN: Object to form.
 15 BY MR. LU:
 16 Q. I'm asking you whether those terms are a
 17 coined meaning or a deviation from the ordinary or
 18 custom meaning.
 19 MR. BERTIN: Object to form.
 20 THE WITNESS: As used in the claims, both.
 21 BY MR. LU:
 22 Q. Okay. Are the phrase "substantially all WIFI
 23 access points in the target area" a coined meaning or a
 24 deviation from the ordinary or custom meaning?
 25 MR. BERTIN: Object to form.

1 ordinary skill in the art would know that a claim term
 2 has been given a special meaning in a patent or in a
 3 related document, such as a prosecution history?
 4 A. I'm sorry. I was actually focusing on your
 5 earlier question. Can you ask that question again?
 6 Q. Yes. One of -- how would one of ordinary
 7 skill in the art know that a claim term has been given
 8 a special meaning in the patent or in related
 9 documents, such as the prosecution history?
 10 MR. BERTIN: Object to form.
 11 THE WITNESS: By seeing how the inventor used
 12 the phrase.
 13 BY MR. LU:
 14 Q. And --
 15 A. In some cases I've seen patents where the
 16 inventor actually included a glossary. That appears
 17 not to be the case with regard to these patents, but
 18 there's a consistency in how the phrase has been used.
 19 And that would teach one of skill in the art what the
 20 inventors meant. In some cases it's quite clear. In
 21 some cases the -- the -- the phrases defy meaning.
 22 Q. So what sort of indicia does one of ordinary
 23 skill in the -- in the art look for in order to
 24 determine that a claim term has a defined meaning?
 25 A. I guess I'm not sure what you're asking. One

1 THE WITNESS: That's one where one of skill in
 2 the art would need to see the context. And in the
 3 context of this patent, I believe that's a special
 4 meaning.
 5 BY MR. LU:
 6 Q. Is the phrase "providing a reference database
 7 of calculated locations of WIFI access points in a
 8 target area" a coined meaning or a deviation from an
 9 ordinary or custom meaning?
 10 MR. BERTIN: Object to form.
 11 THE WITNESS: Could you ask that question
 12 again?
 13 BY MR. LU:
 14 Q. Is the phrase "providing a reference database
 15 of calculated locations of WIFI access points in a
 16 target area" a coined meaning or a deviation from the
 17 an ordinary or custom meaning?
 18 A. As used in this patent, its both. The
 19 inventors defined that phrase.
 20 Q. How does one know in the context of a patent
 21 when a inventor has given a special meaning to a claim
 22 term?
 23 MR. BERTIN: Object to form.
 24 BY MR. LU:
 25 Q. What is your understanding of how one of

1 example, which I gave, is if the inventor actually
 2 includes a glossary. That one's kind of simple.
 3 Another example is where the teachings are so
 4 consistent that one of skill in the art reading the
 5 specification would be led to the unavoidable
 6 conclusion that this phrase, as used in this claim in
 7 the context of the specification and possibly what was
 8 found in the prosecution history, can only mean this.
 9 In some cases, in the prosecution history, the
 10 inventors may even -- in order to secure the -- the --
 11 the claims to -- to avoid prior art, the inventions may
 12 make specific admissions that limit or define what the
 13 phrases mean. So that -- in fact, that has happened in
 14 this case in -- in -- in -- with regard to these
 15 patents. But you're asking for the indicia. There
 16 were several.
 17 Q. What are the --
 18 A. And again, one needs to read -- it's not a
 19 simple task. And the job of -- of defining what these
 20 phrases mean, given the background and the skills of
 21 one of ordinary skill in the art, the technical
 22 training that person has had, and familiarity with the
 23 field, the problems being solved at the time, the
 24 literature being published, and how the words have been
 25 used to teach the invention in the specification in the

1 prosecution history, as I just described, and in the
 2 claims themselves, tell one what the phrase -- or may
 3 tell one what the phrase means -- in some cases the
 4 phrases defy construction.
 5 Q. But we're talking about some circumstances
 6 where it's a coined phrase or the phrase is used in an
 7 deviation from its ordinary and custom meaning.
 8 What are the indicia of a deviation from the
 9 plain and ordinary meaning?
 10 A. Are we talking in -- in the abstract now or
 11 specifically with regard to specific term in dispute?
 12 Q. Sure. Why don't we address in the abstract
 13 first and then the specific terms in dispute.
 14 A. I -- I don't know what else to add to the
 15 answers I've already given.
 16 Q. All right. What about for the particular
 17 claims in dispute? What is the language that you rely
 18 upon for the claim terms that you believe have a
 19 coined -- or meaning or a deviation from the ordinary
 20 and accustomed meaning?
 21 What is the language that you rely upon in
 22 order to arrive at that deviation or coined meaning?
 23 MR. BERTIN: Object to form. Asked and
 24 answered.
 25 THE WITNESS: What term do you want me to

1 out how it's used.
 2 And "arterial bias" does seem to have an
 3 interpretation in the context of the patent. "Avoiding
 4 arterial bias," that's a different matter. It doesn't
 5 have an interpretation, but "arterial bias" does. And
 6 in fact, I explain this here.
 7 In paragraph 78 of my report it reads: "The
 8 inventors appear to believe that their proposed
 9 database creation technique of deliberately taking
 10 measurements along every street reduce the source of
 11 WIFI device location error that they refer to as
 12 "arterial bias." I do not believe that this term has a
 13 recognized technical meaning. Rather, I believe the
 14 meaning of 'arterial bias' and 'avoid arterial
 15 bias/avoids arterial bias' found in the claims must be
 16 obtained from reading the patent and prosecution
 17 history."
 18 Now, we're talking about arterial bias. "More
 19 review of the specification and prosecution history
 20 informs me that one of skill in the art would
 21 understand arterial bias. It's the deviation of the
 22 calculated position for a WIFI access point toward
 23 heavily trafficked roads and away from the actual
 24 geographic location of the access point due to the
 25 tendency of random scanning to result in a greater

1 discuss? Because the answer would vary by term.
 2 BY MR. LU:
 3 Q. Sure. Let's talk about reference symmetry
 4 first.
 5 MR. BERTIN: And object to form.
 6 THE WITNESS: Well, we can talk about that
 7 first, but you're going to need to ask the question.
 8 Because the question that I heard was, what language
 9 did I rely on that told me that the term was used -- is
 10 either coined or deviated from the norm. That's a term
 11 that I think defies construction, so neither of those
 12 conditions applies.
 13 BY MR. LU:
 14 Q. Okay. What about the term "arterial bias"?
 15 MR. BERTIN: Object to form.
 16 BY MR. LU:
 17 Q. For the term -- I'm just going to rephrase the
 18 question to address your lawyer's objections.
 19 For the phrase "arterial bias," what are --
 20 what is the language or the evidence that you have to
 21 support the notion that that claim term has a coined
 22 meaning or is a deviation from the ordinary or accustomed
 23 meaning?
 24 A. Well, here, the phrase itself is not a term of
 25 art. So one would need to consult the patent to find

1 number of scans from heavily trafficked roads."
 2 Now, we had a fairly lengthy discussion on
 3 this just topic this morning. I believe it was with
 4 regard to figure 3 of -- was it the 245 patent? And we
 5 can repeat that discussion, if you'd like, or we can
 6 just take that response and include it as part of my
 7 answer to the question you're currently asking --
 8 Q. Okay.
 9 A. -- asking.
 10 MR. LU: Why don't we move on.
 11 We have five minutes remaining on the video,
 12 so why don't we take a short break to change the CD.
 13 THE VIDEOGRAPHER: This marks the end of
 14 Media No. 2 in the deposition.
 15 We are going off the record, and the time is
 16 2:15 p.m.
 17 (A brief recess was taken.)
 18 THE VIDEOGRAPHER: Here begins Media No. 3 in
 19 the deposition of Dr. Anthony Acampora.
 20 We're back on the record. The time is
 21 2:24 p.m.
 22 BY MR. LU:
 23 Q. Dr. Acampora, I'd like to direct your
 24 attention to paragraph 60 and 61 of your expert
 25 declaration. It's on page 26.

1 Now, in paragraph 60 you provided your opinion
 2 regarding what one of ordinary skill in the art would
 3 be, and that's a bachelors degree in electrical
 4 engineering or computer science and three to five years
 5 of experience working in wireless communication
 6 hardware and software design.
 7 Do you see that?
 8 A. I do.
 9 Q. And in -- on page 61 -- I'm sorry -- paragraph
 10 61, you state that you considered a number of factors
 11 in coming to this conclusion.
 12 Do you see that?
 13 A. I do.
 14 Q. Okay. Turning to the first factor, the field
 15 of the purported invention of the patents in suit.
 16 What was it about the field of the invention -- field
 17 of the purported invention of the patents suit that led
 18 you to come to the conclusion regarding the level of
 19 ordinary skill in the art?
 20 A. Well, "The patents themselves describe the field
 21 of the invention as generally related to location-based
 22 services, and, more specifically, to methods and
 23 systems of determining locations of WIFI access points,
 24 and use this information to locate a WIFI-enabled
 25 device."
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1 The background section goes on. "Discussion
 2 of related art."
 3 "In recent years a number of mobile computing
 4 devices has increased dramatically." And it gives
 5 examples of the need that's been created for different
 6 types of mobile and wireless service -- just going on
 7 paragraph 45 -- line 45 -- line -- column 1,
 8 "location-based services under merging area of mobile
 9 applications." Reading further. "Using radio signals
 10 coming from known reference points, these devices can
 11 mathematically calculate the user's position relative
 12 to these reference points."
 13 GPS is mentioned. Cell tower triangulation is
 14 mentioned. Combination of GPS and cell tower
 15 techniques is mentioned.
 16 WIFI location systems deployed by Microsoft
 17 and Intel --
 18 (Reporter interruption.)
 19 THE WITNESS: Microsoft and Intel are
 20 mentioned. 802.11 is mentioned. WIFI radio is
 21 mentioned. WIFI access points are mentioned. So WIFI
 22 cellular wireless communications are all over this
 23 patent.
 24 And accordingly, I believe that my
 25 construction -- my opinion as to who one of ordinary
 Page 150

1 skill in the art would be is correct. To read and
 2 understand this patent -- because of it's total
 3 domination by wireless communications -- one would need
 4 an electrical engineering or computer science degree at
 5 the bachelors level and three to five years of
 6 experience working in wireless communications, hardware
 7 and software design.
 8 Q. Another factor you indicate you consider is
 9 "the skill required for implementing wireless
 10 communications, hardware and software."
 11 What do you mean by that?
 12 A. Well, just what it says. In order to design
 13 wireless communications hardware and software, what
 14 skill set would be needed? Now, I've educated many,
 15 many, many engineers since I became an academic 23
 16 years ago. I work with people from industry who
 17 implement wireless communications, and I have, for the
 18 past 23 years while I've been an academia -- I was
 19 actually part of a commercial R and D operation
 20 responsible for, among other tasks, implementing
 21 wireless communications, hardware and software.
 22 So I believe that I have an awareness of what
 23 the skill set is of somebody working in implementing
 24 wireless communications, hardware and software. I
 25 consider that in defining who one of ordinary skill in
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1 the art would be. And that's consistent with the
 2 construction -- with the opinion that I've offered.
 3 Three to five years of experience in wireless
 4 communications, hardware and software design, and a
 5 bachelors degree in electrical engineering/computer
 6 science.
 7 I believe somebody with that background would
 8 be -- would have the skills required for implementing
 9 wireless communications, hardware and software.
 10 Q. Turning to paragraph 65 of your declaration on
 11 page 27, the first sentence says: "Essentially, a
 12 structural limitation says what something is, while a
 13 functional limitation says what it does."
 14 Do you see that?
 15 A. I do.
 16 Q. What is your understanding of the meaning of
 17 that sentence -- strike that.
 18 What did you mean by that sentence? Well, let
 19 me actually ask you a different question.
 20 This was a sentence that was written by you
 21 when provided by the lawyers, right?
 22 A. Well, probably. Or it may have been something
 23 that was -- well, the answer to your question is yes.
 24 Whether it was -- whether it was in the form it was
 25 initially provided to me or whether it was response to
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1 some questions I had about the language in that -- in
 2 what was initially provided to me, that, I can't say
 3 with certainty. But I certainly understand what this
 4 means. So this -- it was presented to me in a way that
 5 I understand.
 6 Q. So what is your understanding of the phrase:
 7 "Essentially a structural limitation says what
 8 something is, while functional limitation says what it
 9 does"?"
 10 A. Well, a structural limitation would be a noun,
 11 and a functional limitation would be a verb.
 12 Q. The next sentence says: "I understand that
 13 one determines whether a claim term is a
 14 means-plus-function form by considering whether the
 15 claims disclose a structure or whether the limitation
 16 speaks in purely functional terms."
 17 Do you see that?
 18 A. I do.
 19 Q. What is your understanding of that sentence?
 20 A. Well, I understand the sentence. I'm not sure
 21 that I can clarify much beyond what it says here, but I
 22 can give examples.
 23 A thing that performs this function, I
 24 believe, would be -- if -- if a limitation would be
 25 written in that phrase, that would be

1 means-plus-function form, if it says "means for
 2 performing this function." Well, to me, that's --
 3 means-plus-function form because, did the claims
 4 disclose -- disclose a structure, or did the limitation
 5 speak purely in terms of what this thing does? So do I
 6 understand the thing by itself, or do I understand the
 7 thing only through what it does?
 8 That's what I mean. And I probably just
 9 stated it in -- less articulately than it appears in my
 10 report, but I don't know how better to express it.
 11 Q. So let's give an example. A processor for
 12 computing pi. Would that be means-plus-function form,
 13 or would that be a structure?
 14 A. Well, that's not something that I have an
 15 opinion on. So you're asking me to do it on the fly --
 16 to create an on-the-fly opinion?
 17 Q. Well, you -- you -- you -- you indicated
 18 that -- that your understanding of this phrase is that
 19 someone can determine whether something's
 20 means-plus-function form by considering whether the
 21 claims disclose a structure or whether the limitation
 22 speaks in purely functional terms.
 23 And I'm giving you a phrase, "processor for
 24 computing pi."
 25 A. Can I see the rest of the claim that this is

1 drawn from? I mean, you're asking me to do an
 2 analysis, so I need -- I need something more.
 3 Q. Is a processor something that discloses a
 4 structure, or is it in purely functional terms?
 5 A. What else does this claim say? Does the claim
 6 say anything more about the processor or anything less
 7 about the processor? Are you asking me -- if we're
 8 playing sort of a what-if game -- so suppose the
 9 claim -- the entire claim read: "A processor for
 10 computing pi."
 11 Q. Sure.
 12 A. Can we simplify the question to that? So the
 13 entire claim?
 14 Q. Sure.
 15 A. And in fact, there's not even any
 16 specification. There's just -- the patent consists of
 17 one claim which reads "a processor for computing pi."
 18 Q. Sure.
 19 A. I would think that is a means-plus-function
 20 term.
 21 Q. Okay. What about the phrase "computer code
 22 for computing pi"? Would that be a means-plus-function
 23 term?
 24 MR. BERTIN: Object to form. Improper
 25 hypothetical.

1 THE WITNESS: Well, I'd have a different
 2 problem with that. So again, let's be sure we
 3 understand what you're asking because I can't do an
 4 on-the-fly analysis without more context. So let's
 5 delete any -- remove any possibility of -- of context.
 6 This is a one-claim patent with no specification. The
 7 claim reads "computer code for computing pi."
 8 I would have several problems with that
 9 construction. I'm not even sure that I'd say that's
 10 means-plus-function. It might be. But computer code
 11 doesn't do anything. I mean, a computer code -- I --
 12 I -- I would have real difficulties understanding that
 13 claim. Would -- this computer code might be written on
 14 this piece of paper, and that piece of paper is not
 15 going to compute pi. Something executing the steps of
 16 this code, whatever that something might be, might
 17 produce pi as a result, but the piece of paper with the
 18 code written on it is a piece of paper with a code
 19 written on it.
 20 BY MR. LU:
 21 Q. What about digital circuitry for computing pi?
 22 Would that be a means-plus-function claims element?
 23 MR. BERTIN: Object to form. Improper
 24 hypothetical.
 25 THE WITNESS: So once again, I'm going to

1 create my own context for answering that question.
 2 It's a single-claim patent, no specification, and the
 3 single claim reads -- was it digital circuitry for
 4 computing pi?
 5 BY MR. LU:
 6 Q. Correct.
 7 A. In my opinion, that would be
 8 means-plus-function form.
 9 Q. So the next sentence in paragraph 65 states:
 10 "A term that uses words like 'means for' is presumed to
 11 be a means-plus-function form. While a term that does
 12 not use similar means phrasing is presumed not to be a
 13 means-plus-function form.
 14 Do you see that?
 15 A. I do.
 16 Q. And what is your understanding of that?
 17 A. Once again, I'm not sure that I could clarify
 18 the words that are written here.
 19 Q. Next sentence says: "Those are only
 20 presumptions however and the true test --"
 21 A. I wasn't finished answering, but if you want
 22 to move on, that's fine.
 23 Q. Oh, I'm sorry. Please answer.
 24 When you said you weren't sure you could
 25 clarify any further, I assumed that that was the

1 understanding of what that thing is? Would I, in fact,
 2 maybe not even know what that thing is and I'd have to
 3 look elsewhere in the claim itself or in the
 4 specification to find out what that thing is.
 5 Q. Okay. Next sentence of paragraph 65 says:
 6 "I'm advised that as an aid in determining whether
 7 sufficient structure is recited in the claim, the
 8 federal circuit has considered, quote, "whether the
 9 term as the name for a structure has a reasonable
 10 well-understood meaning in the art."
 11 Do you see that?
 12 A. Yes.
 13 Q. What is your understanding of the meaning of
 14 that sentence?
 15 A. If one sees this named structure or the term
 16 that's -- let me state this correctly.
 17 The term that's being used as a name for
 18 structure, would I know what that thing is? Would one
 19 of skill in the art have the -- have an understanding
 20 of what that thing is? Or would one need to look
 21 elsewhere to find out just what it is is being claimed?
 22 Would I understand the boundaries of this claim? How
 23 would I know if I infringed it? Is the term so
 24 reasonably well-understood as to limit what the
 25 invention is or not? Do I need further information so

1 answer.
 2 A. Okay. So if the -- if the words "means for"
 3 and what follows that consists of some action that this
 4 "means for" does, then it's my understanding that would
 5 be presumed to be means-plus-function. Doesn't mean
 6 that it is means-plus-function. It may not be
 7 means-plus-function.
 8 And a similar term that does not use means
 9 phrasing is presumed not to be means-plus-function.
 10 Again, doesn't mean that it's not a means-plus-function
 11 limitation. It might very well be. But it's presumed
 12 not to be. You'd have to show and explain the support
 13 for concluding otherwise.
 14 In fact, you called my attention to that one
 15 sentence. The rest of this paragraph clarifies that
 16 sentence, as I just described.
 17 Q. That is the following sentence "I'm advised"
 18 --
 19 A. No. "These are only presumptions, however,
 20 and the true test is whether the claim recites
 21 sufficient structure."
 22 Q. What is your understanding of that sentence?
 23 A. If I read the function, would I have an
 24 understanding of what the thing is that performs that
 25 function? Or would -- would I not have a clear

1 I know what the boundaries are of -- of this claim?
 2 Otherwise, how would I know if I've infringed it?
 3 Q. Let's go to the next section,
 4 "Indefiniteness." Turn to paragraph 69. It reads:
 5 "In the case of means-plus-function limitations, it is
 6 my understanding that if a corresponding structure for
 7 performing the function is not set out in the
 8 specification, then the claim is indefinite."
 9 Do you see that?
 10 A. I do.
 11 Q. What is your understanding of that sentence?
 12 A. Once again, I'm not sure how I can make it any
 13 clearer than -- than it is. But if we have a
 14 means-plus-function limitation, then it's my
 15 understanding that the limitation is met only by the
 16 structure disclosed in the specification that is
 17 capable of, linked to, and actually does perform that
 18 function. And as I -- and here again, I'm going on
 19 memory, which may be less than perfect -- or its
 20 equivalence. Otherwise, the claim is indefinite.
 21 Q. Going back to paragraph 67. "I also have been
 22 informed on legal principles concerning patent
 23 validity, including the definiteness requirement, and
 24 have used those principles in forming my opinions."
 25 Do you see that?

1 A. I do.
 2 Q. What do you mean by that sentence?
 3 A. Just what it says. I was provided with
 4 principles that I was asked to apply concerning patent
 5 validity, including the definiteness requirement. And
 6 I've applied those principles in forming my opinion.
 7 So again, I'm not sure how to make it clearer
 8 than -- than it is. I was given instructions regarding
 9 definiteness and indefiniteness. In fact, those
 10 instructions are -- are summarized in paragraph 68 and
 11 69.
 12 Q. Are there any instructions that you were given
 13 regarding indefiniteness that are not listed in
 14 paragraph 68 and 69?
 15 A. Not that I can think of.
 16 Q. Let's turn to page 29 of your expert report.
 17 And let's turn to page -- paragraph 73. First sentence
 18 reads: "The patents describe reference symmetry in a
 19 context where there is significant error in a location
 20 calculation caused by either two few reference points
 21 or by reference points that lack symmetry -- balance or
 22 symmetry around the user."
 23 Do you see that?
 24 A. I do.
 25 Q. What did what did you mean when you wrote that

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1 sentence?
 2 MR. BERTIN: Object to form.
 3 THE WITNESS: Well, the short answer is, I
 4 meant what I wrote. If you want me to elaborate on
 5 that, then I refer back to the patent itself. If I can
 6 direct your direction to the citations in the patent
 7 that are included in paragraph 63, one of which is a
 8 section from the specification titled "reference
 9 symmetry."
 10 BY MR. LU:
 11 Q. So you took your understanding of what
 12 reference symmetry means, at least in part, from the
 13 section of Exhibit C, the patent -- I believe that is
 14 the 694 patent.
 15 A. 998 patent.
 16 Q. Or the 998 patent. Excuse me.
 17 MR. BERTIN: Object to form.
 18 MR. LU: Strike that.
 19 BY MR. LU:
 20 Q. So at least -- so your understanding of
 21 reference symmetry or the description of -- strike
 22 that.
 23 So your description of your sentence -- the
 24 first sentence -- first sentence of paragraph 73 is
 25 based, at least in part, upon the portion of the 988

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1 patent titled "reference symmetry;" is that correct?
 2 A. Well, let's first back up to paragraph 72.
 3 "Reference symmetry is not a term that has an
 4 established meaning in the art."
 5 I'm not aware of any special meaning to
 6 reference symmetry in the art. This is one of the
 7 terms where one would need to read the patent, the
 8 specification of claims, and the prosecution history to
 9 understand what the inventors' mean by "reference
 10 symmetry." So accordingly, one of the places that I
 11 looked was the section in the patent titled "reference
 12 symmetry." Not the only place, but one place.
 13 Q. Okay. Where else did you look?
 14 A. Column 1, lines 53 to 57. Column 2, lines 53
 15 to 57. Let me check those because I just want to make
 16 sure that's not a typo.
 17 Yeah. The first one of those sites perhaps
 18 shouldn't be there, one -- Column 1, lines 53 to 57.
 19 The second one, Column 2, lines 53 to 57 is the
 20 description of -- of the, quote, "the classic example,"
 21 end quote.
 22 Q. Okay.
 23 A. Figure 5, which is titled "lack of reference
 24 symmetry," and as I -- as I mentioned, that figure
 25 shows access points on only one side of the user.

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1 Figure 6, which shows access points distributed around
 2 the user.
 3 Q. So let's --
 4 A. Column 9, lines 55 through Column 10, line 4,
 5 which describes the Chinese postman routing, resulting
 6 in a situation in which there were numerous access
 7 points on all sides of the user.
 8 That's -- that probably -- that list probably
 9 includes most of the material that I relied on from the
 10 patent in reaching my opinions regarding reference
 11 symmetry. But of course, I read that in the context of
 12 the entire patent and its prosecution history.
 13 Q. Okay. So let's turn to figure 5. What is
 14 shown in figure 5?
 15 MR. BERTIN: Are we still on the 988?
 16 MR. LU: We are still on the 988.
 17 THE WITNESS: What's shown in figure 5 is a
 18 situation that the inventors characterize as lacking
 19 reference symmetry. The title of the figure is "lack
 20 of reference symmetry." And what's shown here are a
 21 bunch of access points. These access points are
 22 predominantly on one side of the user. The user's
 23 location is marked by an X. The calculated locations
 24 of the access points -- not the actual locations -- but
 25 the calculated locations are all predominantly on one

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1 side. And this is a situation that the inventors
 2 characterize as lack -- as being in lack of reference
 3 symmetry.
 4 BY MR. LU:
 5 Q. And what is shown in figure 6? Just back
 6 up -- back up a little bit on -- back to figure 5.
 7 So we have calcu- -- calculated location of
 8 user, marked with a little X. Do you see that?
 9 A. I do.
 10 Q. And we have user 501, which is a solid black
 11 dot. Do you see that?
 12 A. I do.
 13 Q. And you see radio range of user devise being
 14 surrounded by a circle? Do you see that?
 15 A. I do.
 16 Q. Okay.
 17 A. By the way, thanks for calling my attention to
 18 that. The X in figure 5 is the location -- the
 19 calculated location of the user. The actual location
 20 is the -- the black circle. And all of the calculated
 21 locations of access points are on one side of that
 22 user. They're all to the left of that user. Some of
 23 them are beneath the user, some of them are above the
 24 user, but they're all to the left. And this again, is
 25 a -- this is a situation that the inventors

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1 characterize as a "lack of reference symmetry."
 2 Q. Okay. Let's turn to figure 6. Is this --
 3 A. And if -- if -- if -- if I can go on. And the
 4 section of the patent titled "reference symmetry" tells
 5 us what the inventors mean by "reference symmetry" --
 6 or what they're trying to express by the term
 7 "reference symmetry," at least in the specification.
 8 When I looked at that and tried to relate that
 9 description to the claim language, I found that there
 10 wasn't -- it wasn't a relationship. They didn't map
 11 over. And I don't know where else to look for
 12 reference symmetry. I scoured the patent and its
 13 prosecution history, and as the phrase is used in the
 14 claims, it -- it -- it -- it -- there simply isn't a
 15 description.
 16 Q. Let's turn to figure 6, what the inventors
 17 have characterized as "positioning with reference
 18 symmetry." Do you see that?
 19 A. I do.
 20 Q. Can you describe what's depicted in figure 6,
 21 "positioning with reference symmetry"?
 22 A. Well, yeah, I can. If you look at column 9,
 23 beginning at line 64 -- and this is part of the
 24 description of figure 6. In fact, it may be the
 25 totality of description of figure 6.

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1 "With Chinese postman model of scanning for
 2 access points, the user typically encounters a physical
 3 location" -- figure 6, and -- "in which there are
 4 numerous access point locations on all sides of the
 5 users." So the user is 601, and there are numerous
 6 access stations, 602, that we see marked on figure 6
 7 that are, as the specification describes it, on all
 8 sides of the user within range of the -- of the devices
 9 802 radio. The resulting in position calculation has
 10 reduced location bias and is more accurate as a result.
 11 So that's what figure 6 is -- is showing. But
 12 there's a real problem in -- in this regard. This
 13 perhaps is what the inventors would like their
 14 invention to produce. They have no way of knowing if
 15 this is going to be produced or not because they have
 16 no way of knowing in advance where the access points
 17 are and whether it's possible to achieve this reference
 18 symmetry that's represented in figure 6 and discussed
 19 in the accompanying text. The access point locations
 20 may not be conducive to production of reference
 21 symmetry. It may really all be on one side of the
 22 user.
 23 So this reference -- that we had some
 24 discussion earlier about whether things were achievable
 25 or not, and here's an example of something that may not

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1 be achievable. It's something beyond control of
 2 whoever is taking measurements of -- of access points
 3 in an attempt to determine where the access points are
 4 located. The access points may not be symmetrically
 5 located around the user. It may not be possible to get
 6 to this situations that the inventors are -- are -- are
 7 striving for. Just may not be possible. It's
 8 beyond -- it's beyond the control of the -- whoever's
 9 taking the measurements.
 10 Q. And what --
 11 A. I think I -- I think I even discuss in my
 12 expert declaration that what's not disclosed at all in
 13 the patent is intentionally seeding the target area
 14 with access points in an attempt to ensure access
 15 symmetry. Otherwise, I just don't see how the
 16 teachings of the patent can produce reference symmetry
 17 as it's represented in figure 6 and described in the
 18 specification.
 19 And again, the claims -- the use of the phrase
 20 in the claim don't even relate to this. They relate to
 21 something else that's not discussed at all in the
 22 specification.
 23 Q. Just on that point, if a target is -- if a
 24 targeted area is intentionally and densely seeded with
 25 access points, a person having ordinary skill in the

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1 art would be more likely to be able to determine
 2 reference symmetry, correct?
 3 A. What do you mean by "determine reference
 4 symmetry"?
 5 Q. Well, you're talking --
 6 A. Reference symmetry of what? Are we talking
 7 now about the claim language or the specification?
 8 Q. We're talking about the -- we're talking about
 9 the specification.
 10 A. Just the specification. Because again, as I
 11 testified earlier, the use of the phrase in the claim
 12 is different than what's described in the
 13 specification.
 14 In neither case would one know, a priori, what
 15 this means without reading. In the case of the
 16 specification, one can sort of glean what the inventors
 17 meant. But in my opinion, it's not possible to ensure
 18 that you've gotten to that there, no matter what
 19 measurement technique you use. And it's with regard to
 20 the claims. It -- it -- it -- it -- it just -- it --
 21 it -- it -- it -- there's no suggestion as to what the
 22 phrase means as it's used in the claim because it's
 23 used -- there's a different reference in mind. I know
 24 what the reference point is that they have in mind in
 25 the specification. I don't even know what the

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1 reference point is in the -- in the claim.
 2 And if you'd like, I can explain that.
 3 Q. Well, let's get an answer to my question that
 4 I originally presented which is: If you have an area
 5 that is intentionally and densely seeded with access
 6 points, known access points, a person having ordinary
 7 skill in the art would be likely to be able to
 8 determine reference symmetry in accordance with what's
 9 described in the patent specification, correct?
 10 MR. BERTIN: Object to form.
 11 THE WITNESS: I'm -- I'm -- I'm -- I'm not
 12 sure that's even a properly posed question.
 13 BY MR. LU:
 14 Q. Well, okay.
 15 A. What I would know is that unless the access
 16 points coincidentally were cited in such a way as to
 17 provide this -- and now I'm going to read from the
 18 specification -- "to provide a sufficient number of
 19 reference point with balance or symmetry around the
 20 user," then you could not have reference symmetry. And
 21 that would suggest that you've got to intentionally
 22 deploy the access points in such a way that you have
 23 got a sufficient number and balance or symmetry around
 24 the user no matter where the user might be. This --
 25 this would be rather difficult to accomplish.

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1 And -- and that's as the phrased is used in
 2 the specification. How it's used in the claim, it's --
 3 it's just not described. One would not know how
 4 it's -- what the phrase means as it's used in the
 5 claim.
 6 Q. Okay. So ultimately, the conclusion of your
 7 paragraph 74 is that even practicing the technique
 8 disclosed in the patent, illustrated in figures 5 and
 9 6, one would have no idea of whether or note there is
 10 indeed a condition of reference symmetry because the
 11 location of the WIFI access points is simply not known?
 12 MR. BERTIN: Object to form.
 13 THE WITNESS: That's not what paragraph 74
 14 says.
 15 BY MR. LU:
 16 Q. Okay. So what about my statement was
 17 incorrect?
 18 A. Well, you -- you -- you -- you tried to
 19 characterize what you said was a conclusion I've drawn
 20 in paragraph 74, and I don't think I've drawn that
 21 conclusion.
 22 Q. What is the conclusion that you draw
 23 from paragraph -- in paragraph 74?
 24 A. Well, the last line reads -- if that's a
 25 conclusion -- there is a fundament -- thus -- and I

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1 gave the reasons why earlier in the paragraph -- "there
 2 is a fundamental lack of any objective standard for
 3 determining whether distribution of WIFI access points
 4 might have reference symmetry with regard to a user."
 5 And again, this does not relate to how the
 6 phrase appears in the claim. There was a claim -- the
 7 phrase is used differently in the claim. It's not with
 8 regard to a user. The description in the specification
 9 is with regard to a user.
 10 Q. Okay. So turning back to figures 5 and 6 --
 11 A. There was something else in your question
 12 that -- that -- that -- that troubled me a little bit.
 13 You asked about figure 5 and the conclusion
 14 that I've drawn concerning --
 15 Q. And 6?
 16 A. Yeah. Figures 5 and 6.
 17 Figure 5 has nothing to do with reference
 18 symmetry. In fact, the -- except as an example of the
 19 situation that lacks reference symmetry.
 20 Q. Okay.
 21 A. Now that -- that sort of gets to the heart of
 22 what I've been trying to explain. Figure 5 may be the
 23 reality. It may not be as a result of any particular
 24 measurement technique or any particular location
 25 technique. It may, in fact, be the case that there are

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1 access points located only on one side of the user, so
 2 there's nothing you can do to fix that. If reference
 3 symmetry means you have sufficient density of access
 4 points and they're uniformly spread around the user --
 5 here's an example of where that situation could not --
 6 is -- is simply unachievable. You can't -- you can't
 7 get to that point without intentionally laying down a
 8 whole bunch of additional access stations above the
 9 eight that are shown here, if these are, in fact, the
 10 locations of those eight access points. You're stuck.
 11 Q. What's a sufficient number of WIFI access
 12 points, in your opinion?
 13 A. You got me. Those are the inventors' words,
 14 not mine.
 15 Q. Turning to figures 3 and 4 --
 16 A. Okay.
 17 Q. -- we have in this image known locations of
 18 WIFI access points, which are in black circles. We
 19 have calculated locations of access points, which are
 20 in white diamonds.
 21 Do you see that?
 22 A. Yes.
 23 Q. And this is an example of a scanning scenario
 24 showing arterial bias.
 25 A. Yeah. The so-called random model, where the

1 collection of data was coincidentally some other reason
 2 for traversing the route.
 3 Q. Okay. And I'd like you to put an X, if you
 4 won't mind, in the middle -- in the upper right-hand
 5 corner of the middle box.
 6 A. You want me to mark it right on the --
 7 Q. Yes, please?
 8 A. -- on Exhibit 1 itself?
 9 Q. On Exhibit 1 itself.
 10 A. So you want me to put an X in the middle of --
 11 Q. The upper right-hand corner of the middle box.
 12 A. You mean just put an X here?
 13 Q. Just put an X there.
 14 A. Like that?
 15 Q. Yeah. And why don't you put an X on figure 4
 16 as well.
 17 A. Same spot?
 18 Q. Same spot.
 19 A. Done.
 20 Q. Okay. Let me just grab my pen back.
 21 And I'll tell you what. We're also going to
 22 draw a circle right -- right here.
 23 A. You mean you want -- well, where you point,
 24 you want that to be the center of the circle.
 25 Q. Yeah. Put that as the center of the circle.

1 A. Okay. And how large a radius do you want me
 2 to draw?
 3 Q. Just around the size of the other circles.
 4 MR. BERTIN: So this is a circle that --
 5 MR. LU: And let's label that --
 6 MR. BERTIN: -- Dr. Acampora is being asked to
 7 draw in the lower left-hand corner of the center box on
 8 figure 4 of the 988 patent, just so the record is
 9 clear.
 10 MR. LU: Let's label that circle "user."
 11 Let's draw a similar circle in the exact same
 12 location with the exact same label on figure 3.
 13 You can keep that. All right.
 14 BY MR. LU:
 15 Q. So getting back to figure 3. What we have
 16 here are calculated locations of WIFI access points
 17 that are in white diamonds and the location of the
 18 actual access points in black circles and then a blue
 19 circle, which is now labeled "user."
 20 And we have in figure 4 the exact same thing,
 21 except that rather than simply driving artery 304 and
 22 artery 305, a Chinese postman routing methodology has
 23 been driven.
 24 MR. BERTIN: And to be clear, the circles have
 25 been added to the -- to these figures. They don't

1 exist in the patent by themselves.
 2 MR. LU: Correct.
 3 BY MR. LU:
 4 Q. Now, Dr. Acampora, per the teachings of the
 5 patents, is there a greater degree of reference
 6 symmetry around the user in figure 4 than there is in
 7 figure 3?
 8 A. Well, before I even attempt to answer that,
 9 I've got to ask a question.
 10 Are you referring to the claims, or are you
 11 referring to the specification?
 12 Q. My patent -- my question made it clear, per
 13 the teachings of the patent specifications.
 14 A. So the specifications. So we're not -- we're
 15 not considering the claim. Again, the claim appears to
 16 use reference symmetry in some other way that's not
 17 defined at all. You can't glean what it is from claim
 18 or anything in the specification. It's indefinite.
 19 So we're looking now only at the
 20 specification, as if I could rip the claims off and
 21 focus only on the specification.
 22 Is that what you're asking me to do?
 23 Q. Yes. That's what I'm asking you to do?
 24 A. Okay. And the question once again is?
 25 Q. Is there a greater degree of reference

1 symmetry for the calculated location of WIFI access
 2 points in figure 4 around "user" than there is in
 3 figure 3?
 4 A. Well, I -- I have to ask another question
 5 before I can begin to answer that. What are the Xs
 6 that you asked me to draw represent?
 7 Q. You can ignore the Xs.
 8 A. Ignore the Xs.
 9 Okay. I think I understand your question.
 10 And the answer is going to require a certain amount of
 11 explanation. So let me try to be as brief as I can and
 12 as clear as I can.
 13 On the one hand, both figures 3 and 4 have the
 14 same degree of reference symmetry with regard to the
 15 user, which is the only context in which reference
 16 symmetry is discussed in the specification because
 17 location of the access points and location of the user
 18 have not changed one bit. So let me give an example of
 19 what I mean.
 20 Let's suppose that the actual locations of the
 21 access points are the -- the computed locations -- the
 22 calculated locations are the actual locations. So I'm
 23 going to divorce this notion of reference symmetry from
 24 the scanning method for the moment.
 25 Suppose I know exactly where the access points

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1 are located. The distribution of access points
 2 relative to the user are what they are, and they appear
 3 to be the same in both figures. Now, what the patent
 4 appears to be saying is that with regard to the same
 5 reference symmetry by a different measure, the
 6 calculated locations relative to the random model and
 7 the deliberate Chinese postman model -- it would appear
 8 that the calculated positions are better distributed
 9 around the user in figure 3 than figure 4.
 10 But to draw that conclusion, once again, I
 11 have to rely on the actual scanning method. So if the
 12 invention -- if the inventors are intending to say that
 13 if you use our deliberate Chinese postman routing
 14 algorithm, you will achieve better reference symmetry
 15 with regard -- with respect to the location of the user
 16 than for the examples given in 3 and 4. That would
 17 appear to be the case.
 18 With regard to other language in the -- from
 19 the -- drawn from exactly the same section of the
 20 specification, the section discussing reference
 21 symmetry, that refer to reference symmetry only with
 22 regard to the locations of the access points relative
 23 to the user, that's the same in both figures.
 24 So the reference symmetry is what it is based
 25 upon where the access stations are actually located.

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1 But the perceived degree of reference symmetry might be
 2 affected favorably by using what I believe the authors
 3 feel is their invention, deliberately driving every
 4 street in the target area in according with the Chinese
 5 postman routing algorithm.
 6 And again, that's reference symmetry with
 7 regard to the user, which has nothing to do with how
 8 reference symmetry is used in the claims. It's used in
 9 a different way. It's not discussed relative to the
 10 user at all. In fact, one would not know how it's used
 11 in claims.
 12 Q. Turning to paragraph 75 of your declaration,
 13 the statements that you make in that paragraph are
 14 directed towards the statement that you just made which
 15 is, "as used in the claims, one -- it's not discussed
 16 relative to the user, and one would not know how it's
 17 used in the claims." "It" being reference
 18 symmetry -- strike that.
 19 Why don't you explain what paragraph 75 says.
 20 MR. BERTIN: Object to form.
 21 THE WITNESS: Okay. So as I testified several
 22 times already, the only discussion of reference
 23 symmetry that would suggest what it means, how the
 24 inventors use the phrase, is in -- there's a section on
 25 reference symmetry in the specification. And that

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1 reference symmetry is discussed with regard to a user.
 2 There's a known reference point. The point -- the --
 3 the location of the user. And reference symmetry is
 4 described with regard to some dense and uniform
 5 distribution of access points relative to that point.
 6 Now, when we look at the claim, we see no
 7 language of that type whatsoever. In fact, what we do
 8 see is -- so I'm reading from claim 1 now.
 9 MR. BERTIN: That's of the 988 patent; is that
 10 correct?
 11 THE WITNESS: 988 patent, claim 1, correct.
 12 Column 14, line 22, beginning with the "wherein."
 13 "Wherein said calculated position information
 14 is obtained from recording multiple readings of the
 15 WIFI access points at different locations around the
 16 WIFI access points so that the multiple readings have
 17 reference symmetry relative to other WIFI access points
 18 in the target area."
 19 I have no idea what that means. We no longer
 20 have a point of reference. We have multiple readings.
 21 Somehow these multiple readings have reference symmetry
 22 relative to other WIFI access points. In the
 23 specification, reference symmetry is defined, A,
 24 relative to a user -- the location of the user -- and
 25 is described in such a way as to suggest that the

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1 access points are uniformly distributed and densely
 2 distributed around that user.
 3 Here, somehow, that concept of reference
 4 symmetry is -- appears -- well, the words "reference
 5 symmetry," not the concept -- but the words "reference
 6 symmetry" appear -- regard to other WIFI access points
 7 and multiple readings from different locations around a
 8 WIFI access point. What -- what reference point must
 9 the access points be distributed uniformly and densely
 10 relative to, as was taught in the specification for the
 11 known reference point of the user? I don't know where
 12 the reference point is here. I -- I -- I -- I don't
 13 know what they're talking about here.
 14 MR. LU: Okay. Why don't we take a quick
 15 break.
 16 THE VIDEOGRAPHER: Off the record. The time
 17 is 3:21 p.m.
 18 (A brief recess was taken.)
 19 THE VIDEOGRAPHER: We're going back on the
 20 record. The time is 3:30 p.m.
 21 MR. LU: So when we were off the record, we
 22 reviewed some testimony that Dr. Acampora had provided
 23 regarding figures 3 and figure 4 and, specifically, the
 24 distribution of the calculated locations of the access
 25 points in figure 3 compared to figure 4.

1 The question was: "Was the distribution in
 2 figure 4 -- did that have better reference symmetry
 3 than the distribution in figure 3?" And the answer may
 4 not have reflected -- at least as transcribed -- may
 5 not have reflected Dr. Acampora's answer.
 6 BY MR. LU:
 7 Q. So would you like to comment on that
 8 particular answer?
 9 A. Yes. Figure 4 in the context of the question
 10 and the context of the reply that was given appears to
 11 have better reference symmetry than figure 3. Whereas,
 12 as you read it to me off the record, the roles of
 13 figure 3 and 4 were reversed.
 14 Q. Thank you.
 15 MR. BERTIN: Just to be clear, the rest of
 16 your answer is accurate other than the transposition of
 17 figures 3 and 4.
 18 THE WITNESS: That is correct.
 19 MR. BERTIN: Okay.
 20 BY MR. LU:
 21 Q. So let's turn to page 31 of your expert
 22 declaration. And I direct your attention to paragraph
 23 79 which states: "Based on my review of the
 24 specifications and prosecution history, it is my
 25 opinion that the term 'arterial bias,' standing alone,

1 can be understood to mean the deviation from the
 2 calculated position information for a WIFI access point
 3 towards heavily trafficked roads and away from the
 4 actual geographic location of the access point due to
 5 the tendency of random scanning to result in a greater
 6 number of scans from heavily trafficked roads."
 7 Do you see that?
 8 A. I do.
 9 Q. What is the basis for your statement that this
 10 is, quote, "due to the tendency of random scanning as a
 11 result in a greater number of scans from heavily
 12 trafficked roads"?
 13 A. Okay. So this may be somewhat repetitive to a
 14 discussion we had earlier today with regard to figure 3
 15 in the 988 patent -- or it might have been from the 245
 16 patent. But it's the same figure in either case and
 17 the accompanying text from the specification. So let
 18 me just locate that, and we'll review this.
 19 Okay. So figure 3, example scanning scenario
 20 showing arterial bias.
 21 By the way, I'm using figure 3 from the 988
 22 patent, but I'm going to assume that the blue markings
 23 that you asked me to include are not present, so I'm
 24 using the pristine figure 3 not the marked-up figure 3.
 25 Q. That's fine.

1 A. And what we have in figure 3, the black dots
 2 represent the actual locations of access points. The
 3 white diamonds represent the calculated position of the
 4 access points. And the accompanying description, which
 5 appears in column 7 and 8 of the patent, tells us
 6 that -- and I'm reading now from column 7, line 52.
 7 "The quality of the data collected is greatly
 8 affected by the scanning methodology employed by the
 9 scanning vehicles. Each model has its own benefits and
 10 limitations. One approach, known as the random model,
 11 places scanning devices in vehicles as they are
 12 conducting daily activities for business or personal
 13 uses" -- business or personal "use," singular.
 14 "These vehicles could be delivery trucks, taxi
 15 cabs, traveling salesmen or just hobbyists. The
 16 concept is that over time, these vehicles will cover
 17 enough streets in their own random fashion in order to
 18 build a reliable reference database. The model does,
 19 in fact, provide a simple means to collect data, but
 20 the quality of resulting data is negatively affected
 21 due to issues of arterial bias.
 22 "Figure 3 describes the challenge of the
 23 random model. When the scanning vehicle traverses
 24 routes designed to solve other problems than gathering
 25 data."

1 So let me just interrupt here. Gathering data
 2 is not the primary objective in this random model.
 3 There's some other primary objective. And then
 4 coincidentally, because you happen to be traveling
 5 around, gather some data.
 6 "So when the scanning vehicles traverse routes
 7 designed to solve other problems than gathering of the
 8 data, e.g., delivering packages, people commuting to
 9 and from work, they tend to follow destination routes.
 10 A destination route is when a driver needs to get from
 11 A to B and seeks the faster route to get there. So the
 12 driver looks for the shortest route to the nearest main
 13 artery, whether it be a highway or a main thoroughfare.
 14 As a result, over time, the random driving covers more
 15 and more ground by the cumulative coverage -- shows a
 16 bias to the main roads or arteries at the expense of
 17 the smaller and surrounding roads. Figure 3 -- in
 18 figure 3, arteries 304 and 305 are heavily traversed by
 19 the scanning vehicles resulting in a healthy amount of
 20 scanning data for those streets. But streets 306 and
 21 307 are rarely, if ever covered, because there is no
 22 frequent destination on those streets, and the arteries
 23 are more optimal travel roads.
 24 "The result is that access points 308 and 309
 25 are not scanned at all by the scanning vehicles, so the
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1 positioning system will struggle to identify a user
 2 who's traveling on streets 306 and 307. The result is
 3 that when the system attempts to calculate the location
 4 of the access points from the scanned data, it is
 5 limited to a bias collection of input data."
 6 And we see that in figure 3.
 7 Q. Okay.
 8 A. The calculated positions are along the
 9 arteries 304 and 305. That's arterial bias that
 10 results from random scattering where the data-gathering
 11 is secondary to some other purpose for driving the
 12 routes, like delivery, and they -- they give a number
 13 of examples. But the data-gathering is secondary.
 14 This is random. You sort of take what you get, and
 15 arterial bias results.
 16 Q. So --
 17 A. And the construction they give was my attempt
 18 at succinctly capturing the vivid description from the
 19 patent as exemplified in figure 3, which, by the way,
 20 is the scheme that the inventors walked away from
 21 during the prosecution history to gain allowance of
 22 their claims.
 23 Q. So the phrase --
 24 A. Excuse me.
 25 Q. So the phrase "due to the tendency of random
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1 scanning to result in a greater number of scans from
 2 heavily trafficked roads" is described in the patent
 3 specification as the cause of arterial bias, correct?
 4 A. Can you repeat that, please?
 5 MR. BERTIN: Object to form.
 6 BY MR. LU:
 7 Q. So the phrase, "due --
 8 A. Are you reading from my -- from the patent now
 9 or -- it will be easier if I could follow you.
 10 Q. So your patent claim has the phrase, "due to
 11 the tendency of random scanning to result in a greater
 12 number of scans from heavily trafficked roads as part
 13 of the construction for arterial bias," correct?
 14 A. So you're reading now from my declaration?
 15 Q. I'm reading from your claim construction in
 16 your declaration.
 17 A. Okay.
 18 Q. Okay. And what you've read to me from the
 19 patent specification suggests that the phrase "due to
 20 the tendency of random scanning to result in a greater
 21 number of scans from heavily traveled roads" is a cause
 22 of arterial bias, correct?
 23 MR. BERTIN: Object to form.
 24 THE WITNESS: I'm not sure I understand the
 25 question, so one more time, please.
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1 BY MR. LU:
 2 Q. Well, you -- you spent about five minutes
 3 discussing -- reading, quoting from the patent what the
 4 cause of arterial bias is, correct?
 5 A. Well, I think it's more than the cause. I
 6 think that's definitional. Remember, arterial bias is
 7 not a phrase that would be -- that would have a
 8 well-known meaning to one of skill in the art. You got
 9 to read the patent to see how they characterize it to
 10 gain an understanding of what they meant, and I think
 11 they actually did describe that pretty well. They --
 12 they -- they tell us what arterial bias is and how it
 13 is caused.
 14 Q. Are there other ways in which the calculated
 15 position information for a WIFI access point would be
 16 bias towards a main artery and away from the actual
 17 geographic location of the WIFI access point?
 18 MR. BERTIN: Object to form.
 19 THE WITNESS: I -- I suppose it can concoct
 20 some, but they're certainly not described in the
 21 patent. And to a certain extent, we discussed this
 22 earlier when you were asking me about the language in
 23 my report to the effect of possibly unachievable, I
 24 think the language was. Let me find it exactly.
 25
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1 BY MR. LU:
 2 Q. So because the patent doesn't describe any
 3 other way in which --
 4 MR. BERTIN: Were you done with your answer
 5 there?
 6 THE WITNESS: I was not.
 7 MR. LU: Okay.
 8 MR. BERTIN: Do you mind just letting him
 9 finish?
 10 THE WITNESS: Yeah. The language that I was
 11 referring to that we discussed earlier appears in
 12 paragraph 21 of my report. "Their, quote, 'discovery,'
 13 unquote, if any, appears to be a deliberate and
 14 possibly unachievable effort to improve the accuracy."
 15 So they're setting up this arterial bias.
 16 They're telling us how it's created. And even the name
 17 itself, "arterial bias," it's bias caused by the fact
 18 that the measurements are being taken along arteries.
 19 That's what they intended when they used the phrase
 20 "arterial bias."
 21 So the construction -- and I won't reread
 22 it -- but it's exactly what I opine on in paragraph 79.
 23 And that's just -- that's nothing more than a summary
 24 of exactly what the inventors taught us they meant by
 25 arterial bias in the specification.

1 Now, is there another way that you could get
 2 arterial bias? So suppose you drive the -- and this is
 3 why the objectives of the invention might not be
 4 achievable.
 5 Suppose you drive some different route. Let's
 6 call it a quasi- -- quasi-deliberate route so we're not
 7 pinning it down to any specific routing algorithm. So
 8 maybe you're driving on streets other than main
 9 arteries. But as I testified earlier, there are
 10 propagation effects of shadow-fading caused by line of
 11 sight blockage by buildings, multipath propagation,
 12 that can still cause the resulting access point
 13 location calculations to be significantly in error.
 14 Whether the errors would coincidentally cause
 15 them to be bias towards arteries, that, I don't know.
 16 But -- so, yeah, maybe you -- I -- I guess I'm
 17 convincing myself even further that arterial bias can
 18 only be caused by driving in this random way where
 19 there would be a tendency to scan heavily trafficked
 20 roads.
 21 Coincidentally, and probably highly unlikely,
 22 one might get arterial bias because of some
 23 unpredictable propagation patterns. But that just
 24 further shows that the objectives of the patent cannot
 25 be guaranteed. But in any event, there's no doubt what

1 the inventors mean by arterial bias. It's the only
 2 description they give, and I had to struggle to create
 3 a situation. And even as I was struggling to invent a
 4 situation on the fly, I realize that that may not
 5 result in arterial bias. It's more likely to result in
 6 significant errors, but not necessarily arterial
 7 bias -- arterial bias? The word itself "arterial,"
 8 it's bias caused by the fact you're traveling the
 9 arteries. This is quite clear.
 10 BY MR. LU:
 11 Q. Now, what if I were to provide instructions to
 12 my drivers to drive a programmatic route but only to
 13 take roads that had at least four lanes. Would that
 14 create arterial bias?
 15 A. Well, how many lanes are there on the average
 16 roads? If -- if four -- if four lanes would be
 17 regarded as a very wide road and other streets have one
 18 lane, then that might be arterial bias. On the other
 19 hand, if most roads have four lanes and a few roads
 20 have eight lanes, then what you just described would
 21 not produce what the authors intended by the use of the
 22 phrase "arterial bias."
 23 Arterial bias means you're scanning the
 24 heavily trafficked roads, the main arteries, the big
 25 streets. That's completely consistent with common

1 sense and understanding, what we mean by an artery in
 2 the vehicular traffic sense and what's disclosed in the
 3 specification.
 4 Q. But one can create arterial bias by scanning
 5 that is other than random; in my example, instructions
 6 to only drive streets that are at least a certain
 7 number of lanes wide, correct?
 8 A. Not as it's used in this patent, no, not
 9 correct. The patent does not suggest that there --
 10 they're setting up a problem. They're telling you how
 11 that problem would commonly be -- would commonly occur.
 12 A bunch of vehicles are sent out on a mission -- on
 13 missions. Those missions are to get from point A to
 14 point B. And as the patent describes, you're more
 15 likely to navigate onto an artery, travel that artery,
 16 and that's what's going to cause the arterial bias.
 17 The patent does not suggest deliberately creating what
 18 you're characterizing as arterial bias by instructing
 19 the fleet to drive only on the main roads.
 20 Now, if you instructed -- I think common sense
 21 consistent with what's in the patent, why this arterial
 22 bias exists, would be consistent with telling the fleet
 23 to drive the main arteries because you want them to get
 24 to their destination quickly. It's not an attempt to
 25 create arterial bias as much as an attempt to get to

1 the destination.
 2 And as a result of your instruction to drive
 3 the main arteries, you're going to produce arterial
 4 bias because you're going to produce a greater number
 5 of scans on the heavily trafficked roads.
 6 Q. Now, turning back to figures 3 and 4 -- and
 7 we're going to reference a clean copy of figures 3 and
 8 4 without the markings.
 9 A. Okay. I'm -- I'm sort of waiting to hear your
 10 question because I might need to ask for a clean copy
 11 if I have to ponder the figure in order to respond.
 12 Q. Okay. So figure 3 is indicated by the patent
 13 as showing arterial bias. And figure 4 is described in
 14 the patent as not -- as being the Chinese postman
 15 routing; is that correct?
 16 A. Well, figure 3 is titled "Example of Scanning
 17 Scenarios Showing Arterial Bias," and there's a whole
 18 description of that figure that I just read into the
 19 record from the patent.
 20 Q. Okay.
 21 A. So I'll avoid repeating that, but that's what
 22 figure 3 shows.
 23 Q. All right.
 24 A. Figure 4 is titled "Chinese Postman Routing,"
 25 but that's not the whole story.

1 example of Chinese postman routing. It's the
 2 deliberate attempt to cover every street at least once,
 3 such that the total distance covered is the shortest
 4 possible.
 5 That's the only alternative that the patent
 6 discloses to random routing. And I might have used the
 7 wrong phrase before. And if -- if I did, I'm not a
 8 lawyer. I apologize. It's not that they detoured away
 9 from it. They disavowed random routing in order to get
 10 their claims issued in the prosecution history.
 11 Q. All right. Now, just to be clear because I'm
 12 getting a little frustrated here. My question was,
 13 "Figure 4 is titled Chinese postman routing?" And is
 14 that -- that's the question that could have easily been
 15 answered yes or no without you going off on a spiel
 16 reading, you know, sections of the patent in there.
 17 A. I don't think that's was your question.
 18 Q. That was my question. You said, "Well, but
 19 that's not the whole story."
 20 A. No. No. That was when you interrupted, if
 21 I'm not mistaken. But let's go on.
 22 Q. Okay. But if there are -- my point is simply
 23 being the following: I've been asked by counsel to try
 24 to get us out of here at a decent time. I'm trying to
 25 do that, but it's very difficult when you continue to

1 Q. Now, would you --
 2 A. I'm not finished. Please.
 3 Another approach -- this is column 8 from the
 4 988 patent. Another approach is -- and remember, in
 5 the prosecution history, the inventors taught away from
 6 the random -- the random model. So the other approach
 7 is develop routing algorithms that include every single
 8 street in the target area so as to avoid arterial bias
 9 in the resulting collection of data thus producing more
 10 reliable positioning system to the end users.
 11 Figure 4 describes an optimized routing
 12 algorithm, known as the Chinese postman, to calculate
 13 the most efficient driving route for covering every
 14 single street in the target area. The Chinese -- we
 15 discussed this earlier as well.
 16 The Chinese postman routing algorithm is a
 17 known technique used by postal agencies, utilities, and
 18 census agencies and is a variant of the Eulerian cycle
 19 problem. The Eulerian cycle problem is a problem
 20 asking for the shortest tour of a graph which visits
 21 each edge at least once.
 22 So you're trying to visit each edge at least
 23 once, but such that the total distance traveled is
 24 shortest. That's the approach that is described in --
 25 that -- that is presented in figure 4. Figure 4 is an

1 read back portions -- extensive portions of the patent
 2 specification that you've read, at this point, multiple
 3 times.
 4 If it be possible -- and if you want to cite
 5 that, we can perhaps, at least, just have a citation to
 6 the language that you are interested in putting on the
 7 record without having to read the whole, you know,
 8 lengthy -- lengthy passages to help speed things along.
 9 If that's the case, I would very much appreciate it.
 10 Can we try to do that?
 11 A. Well, I'm not sure. You asked the question,
 12 and I'm trying my best to answer your question each and
 13 every time.
 14 MR. BERTIN: Yeah. Let's just keep asking
 15 questions, please.
 16 THE WITNESS: In some cases you've asked a
 17 question several times.
 18 BY MR. LU:
 19 Q. The record is pretty darn clear that my
 20 question was, basically, "Figure 4 is the Chinese
 21 postman algorithm," and you just continue to go on. So
 22 let's try to move things along. Otherwise, we're going
 23 to continue here until the end of the day, and we may
 24 ask for additional time from this witness.
 25 A. I'll answer your questions --

1 Q. Fair enough.
 2 A. -- as I've been trying to do to the best of my
 3 ability.
 4 Q. Okay. All right. So turning back to figures
 5 3 and --
 6 MR. BERTIN: Just to be clear, I mean, I think
 7 we've been on the record since 9:00 o'clock in the
 8 morning. It's almost 4:00 o'clock now. And we just
 9 need to keep on -- keep on going. I think you might
 10 refine your questions a bit if you want to move more
 11 quickly, but let's just keep going.
 12 MR. LU: Your objection is noted.
 13 How long have we been in this deposition so
 14 far?
 15 THE VIDEOGRAPHER: Five hours and 25 minutes.
 16 MR. LU: Thank you.
 17 BY MR. LU:
 18 Q. So turning to figure 3 and figure 4, would it
 19 be correct that the patent discloses that figure 4
 20 exhibits less arterial bias than what is shown in
 21 figure 3?
 22 MR. BERTIN: Object to form.
 23 THE WITNESS: I think I understand the
 24 question. What I'm pausing over is whether it's
 25 essentially the same question that you asked me earlier
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1 today. I understood it to be, so I don't know how else
 2 to answer except by repeating my testimony from
 3 earlier. But I'll try to abbreviate it by referencing
 4 that, as you suggested.
 5 For the example given in figure 4, for this
 6 location of access points for what appears to be a
 7 building-free environment, the -- the inventors appear
 8 to be showing how their Chinese postman routing scheme
 9 reduces -- or results in less arterial bias. That
 10 appears to be what they're attempting to show in
 11 figure 4.
 12 So they've created this example. And in this
 13 example there appears to be less arterial bias in
 14 figure 3 -- figure 4 -- which uses Chinese postman
 15 routing relative to figure 3, which uses the random
 16 model.
 17 BY MR. LU:
 18 Q. Okay. I'd like you to turn to page 33 of your
 19 declaration, which is the section titled, "C, The Logic
 20 Terms."
 21 A. I'm there.
 22 Q. Okay. And you can use that paragraph 84 to
 23 familiarize yourself with what this section is
 24 discussing, but I'm really interested in asking you
 25 questions about paragraph 85.
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1 A. Are you instructing me to read paragraph 84
 2 first?
 3 Q. If you need to do so in order to familiarize
 4 yourself with this section.
 5 A. I've scanned 84. I may need to reread it
 6 after you've asked your question, but --
 7 Q. Paragraph 85 states in the first sentence: "I
 8 am informed that in a means-plus-function claim in
 9 which the relevant structure computer or microprocessor
 10 programmed to carry out an algorithm, the disclosed
 11 structure, has to be more than a general-purpose
 12 computer."
 13 What is your understanding of that sentence?
 14 A. Well, as long as we have the
 15 means-plus-function limitation and the structure
 16 corresponding to the claimed function is, as an
 17 example, a box labeled "computer microprocessor," then
 18 the disclosed structure has to be more than a general
 19 purpose computer.
 20 In fact, the corresponding structure would
 21 then need to be a computer or program microprocessor as
 22 programmed to carry out an algorithm.
 23 Q. And --
 24 A. So you couldn't just identify a box on a block
 25 diagram as being the corresponding structure, unless
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1 there's some description of the algorithm. Perhaps
 2 it's a flow chart. Perhaps it's given in a code --
 3 it's -- a software code itself, showing what the --
 4 what the -- the -- the algorithm that the box in the
 5 block diagram has been programmed to carry out.
 6 Q. Would a high-level description of the code
 7 disclosing the algorithm be a sufficient disclosure, to
 8 the best of your understanding?
 9 A. You'd need to give me -- I -- I -- this is
 10 sort of a claim construction issue, not necessarily
 11 related to this patent, but sort of a general thing.
 12 You'd have to give me an example.
 13 Q. But a high-level description of code to carry
 14 out an algorithm could be a sufficient structure for
 15 the purposes of means plus function. You haven't
 16 excluded it?
 17 A. I don't know what you mean by "high-level
 18 description."
 19 Q. Well, you've described a example -- two
 20 examples of where a sufficient disclosure of an
 21 algorithm might be possible. And one of those
 22 descriptions was a flow chart, and another one of those
 23 decisions was the actual code itself, correct?
 24 A. I said that. But there was an assumption on
 25 my part that the code -- both the code and the flow
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<p>1 diagram had sufficient detail that one could actually 2 identify unambiguous steps to be followed. It couldn't 3 be so high level as we know better than the box labeled 4 computer to begin with.</p> <p>5 Q. So if there were a description that was 6 sufficient to identify unambiguous steps to be 7 followed, that description could disclose sufficient 8 structure, correct?</p> <p>9 A. Where are you reading from now? If -- if 10 you're going to read from my report --</p> <p>11 Q. That was not --</p> <p>12 A. -- it might help if you tell me where.</p> <p>13 Q. That was not a question from your report. 14 That was a question based upon what you just said about 15 flow charts. And -- I'll tell you what I'm trying to 16 get at.</p> <p>17 Are flow charts and algorithms the only means 18 by which a sufficient structure can be disclosed? Flow 19 chart and code -- excuse me -- are the only means by 20 which a sufficient structure can be disclosed for 21 purposes of means-plus-function?</p> <p>22 A. Probably not.</p> <p>23 Q. Okay.</p> <p>24 A. Things are coming to mind -- might be a 25 recipe. Do this, followed by this, add three cups of</p> <p style="text-align: right;">Page 201</p>	<p>1 one category rather than another category.</p> <p>2 A. I understand.</p> <p>3 Q. Okay.</p> <p>4 Now, turning to paragraph 86, it states: "As 5 discussed below, I have considered the claims and 6 here's my opinion that logic is not a structure and 7 that these terms are therefore means-plus-function 8 terms.</p> <p>9 "I have reviewed the disclosure of the 988 10 patent and for the reasons discussed below, it is my 11 opinion it does not disclose corresponding structures 12 capable of performing the functions stated in the logic 13 limitations."</p> <p>14 Now, the first question is: Is this 15 statement -- are these two statements made in paragraph 16 86 true for all six of the logic terms listed in 17 paragraph 84?</p> <p>18 A. I believe the answer to the question is yes. 19 But if you'd like an unambiguous confirmation of that, 20 I'll need to read -- reread my opinions for each of 21 them. But I believe the answer to the question is yes.</p> <p>22 Q. Okay. Now paragraph, 87 states: "Logic is 23 not a structural term."</p> <p>24 Do you see that?</p> <p>25 A. I see that.</p> <p style="text-align: right;">Page 203</p>
<p>1 this, et cetera, et cetera. I could imagine a recipe 2 having enough specificity that I'd know -- one would 3 know how the computer was programmed.</p> <p>4 Q. Okay. And if a description had sufficient 5 specificity to know how the computer would be 6 programmed, would that be sufficient structure for 7 means-plus-function?</p> <p>8 A. If what had?</p> <p>9 Q. A description, a written description --</p> <p>10 A. Written description had --</p> <p>11 Q. -- sufficient disclosure so that you would 12 know how to program the computer, would that be 13 sufficient structure under your understanding of the 14 law relating to means-plus-function?</p> <p>15 A. Well, possibly. But that sort of just shift 16 with the debate. And that's why we really need to see 17 a specific example of what you're referring to.</p> <p>18 The debate has now shifted to: Is the 19 description adequate to know how the computer is 20 programmed?</p> <p>21 Q. Fair enough. I'm just trying to make sure 22 that there are no categories of, you know, information 23 that you would automatically say would not constitute a 24 description because it happens -- or constitute 25 sufficient structure because it happens to fall into</p> <p style="text-align: right;">Page 202</p>	<p>1 Q. What is your -- what did you mean when you 2 said "logic is not a structural term"?</p> <p>3 A. When I see the word "logic," I don't know what 4 the structure of that logic is. So as I write: "A 5 person of ordinary skill in the art would understand 6 logic to mean a series of defined steps for performing 7 function as opposed to a structure." So "logic" is 8 functional, not physical.</p> <p>9 You know, thinking could be logical, as an 10 example. So you need to see more context. You need to 11 see the language of the claim itself. You need to go 12 back to the specification in order to infer what, if 13 any, structure corresponds to logic. If the claim term 14 is written so that the logic is as it appears in the 15 claim, is defined only by what it does.</p> <p>16 Q. Now, the patent relates to a WIFI location 17 server; is that correct? The 988 patent, claim 1, 18 relates to a WIFI location server, correct?</p> <p>19 A. That's how the preamble reads.</p> <p>20 Q. Okay. What is your understanding of what a 21 WIFI location server is?</p> <p>22 A. Well, I'm not aware that that's a term that's 23 in dispute. If it is, I certainly haven't offered an 24 opinion on it, so I'm not going to create an on-the-fly 25 claim construction. That will take lot of time. If</p> <p style="text-align: right;">Page 204</p>

1 you'd like me to, I can try, but I can tell you that
 2 will take time because I haven't been asked to do that,
 3 and I haven't got an opinion on that.
 4 Q. So in interpreting the logic terms of the 988
 5 patent, you did not consider what the meaning of a WIFI
 6 location server is, correct?
 7 MR. BERTIN: Object to form.
 8 THE WITNESS: No. I didn't say that either.
 9 BY MR. LU:
 10 Q. Okay.
 11 A. But you -- you asked me for a construction,
 12 and that I'm not prepared to do. Whether I considered
 13 the preamble with regard to these logic limitations,
 14 well, sure. I read the entire patent, including the
 15 claim, and all parts of the claim, including the
 16 preamble.
 17 Q. Okay. So did you have an understanding when
 18 you interpreted the logic terms what a WIFI location
 19 server is?
 20 A. Well, I have an understanding of what that is
 21 with regard to the parts of it as claimed in claim 1.
 22 Q. Okay.
 23 A. Except that I don't know what these logic
 24 things are because they were defined only by the
 25 function.

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1 So I know that -- I could sort of see what --
 2 based upon what's written in the specification, this
 3 location server is some sort of a thing that is being
 4 accessed by WIFI users -- that's being queried by WIFI
 5 users in an attempt to determine the location. And
 6 it's created by means of some this deliberate scanning
 7 algorithm, the Chinese postman. I would understand
 8 that.
 9 But then the claim goes on. It's -- it's --
 10 it's -- it's telling -- then it's telling us exactly
 11 what's being claimed, and that's where I fall off the
 12 bandwagon because there is some -- some of these terms,
 13 in my opinion, are indefinite.
 14 Q. So "thing." A WIFI location server can be a
 15 human brain?
 16 MR. BERTIN: Object to -- object to form.
 17 Argumentative.
 18 THE WITNESS: I would not interpret this -- I
 19 don't think one of skill in the art would interpret the
 20 server to be a human brain.
 21 BY MR. LU:
 22 Q. Okay.
 23 A. It's telling us it's comprising a database of
 24 WIFI access points. So there's got to be a database.
 25 It can be -- it can't be only a brain.

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1 Q. So it's a computer, correct? A WIFI location
 2 server is a computer, correct?
 3 A. Well, possibly. In the -- at -- completely
 4 out of context, a server would be -- one of skill in
 5 the art would have some understanding that the server
 6 is some type of a computer.
 7 Q. Now, is the term "logic" in the field of
 8 electronics a purely functional term?
 9 A. You need to be more specific. If -- if the
 10 logic that's -- when you say "in the field of
 11 electronics," if the logic is given in the form of
 12 bunch of Boolean operations to be performed -- to be
 13 performed, then it is presented in functional form,
 14 yes.
 15 Q. But --
 16 A. If it's a specific circuit showing gates and
 17 interconnection of gates and so forth and so on to
 18 accomplish some tasks, then perhaps. But again, we
 19 need to -- I'm sort of borderline speculation right
 20 now. Then perhaps it's -- it's not just functional
 21 form but actually showing a block diagram, so I would
 22 know how to build this thing. And I need -- then I
 23 would need to see the context.
 24 Q. Okay.
 25 A. But none of that, by the way, is presented in

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1 this patent. There are no circuit diagrams.
 2 Q. So you would disagree with a definition of
 3 logic that would included hardware, such as
 4 applications, specific integrated circuit, or
 5 field-programmable gate array software, or a
 6 combination of hardware and software?
 7 A. What logic? The claimed logic?
 8 Q. Just -- just the use of the word "logic."
 9 A. I -- I need this in context.
 10 Q. Okay. So in the context of computer and
 11 computer electronics, you would disagree with a
 12 definition of logic that would be hardware, such as an
 13 application, specific-integrated circuit, or a
 14 field-programmable gate array software, or a
 15 combination of software and hardware, correct?
 16 A. At this point I would neither agree nor
 17 disagree. I need to see more context.
 18 Q. Have you heard the phrase "emitter-coupled
 19 logic"?
 20 A. I have.
 21 Q. What is emitter-coupled logic?
 22 A. It's a type of electronics. It's a -- I
 23 believe it's a type of bipolar electronics that's
 24 actually capable of operating at substantial clock
 25 speeds.

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1 Q. Okay. Have you heard of the phrase CMOS
 2 logic?
 3 A. I have. It's complementary metal oxide on
 4 silicon. That's a another type of semiconductor
 5 technology, as is emitter-coupled logic. But I left
 6 out the semiconductor I want to put that in.
 7 (Reporter interruption.)
 8 THE WITNESS: Okay. It's another type of
 9 semiconductor technology, as is emitter-coupled logic.
 10 And the transistors are fabricated in a different way.
 11 These are not bipolar devices.
 12 BY MR. LU:
 13 Q. Have you heard of the phrase "programmable
 14 logic devices"?
 15 A. Probably.
 16 Q. Do you understand what a "programmable logic
 17 device" is?
 18 A. That's where I would need to see some context.
 19 You said programmable logic array, I would know what it
 20 is. Programmable -- what was the phrase you asked
 21 about?
 22 Q. Well, let's ask about programmable logic
 23 array. What is a programmable logic array?
 24 A. PLA is something that I'm familiar with.
 25 That's a semiconductor chip that can be burned so that
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1 it will perform some objective Boolean operation.
 2 Q. What would you understand if I were to use the
 3 phrase "custom high-speed logic"?
 4 A. Well, again, I would need to see some context.
 5 But the first thing that comes to mind -- by the way, i
 6 don't know -- I'm not aware of any of these phrases
 7 being used in these patents, but I'd have to reread the
 8 patent to confirm that. But you're asking me sort of
 9 in the abstract. You're hitting me with these phrases
 10 cold.
 11 The first thing that would come to mind is
 12 some sort of a application-specific circuit that
 13 operates at high speed.
 14 Q. Okay. What would come to mind if I used the
 15 phrase "commercially available logic families"?
 16 A. TTL, ECL, CMOS -- these are the -- these are
 17 the -- these would come to mind. But again, this is
 18 completely out of context.
 19 Q. That would be TTL logic, CMOS logic, ECL
 20 logic, correct?
 21 A. Those are some examples.
 22 Q. Other examples could include RTL logic, DTL
 23 logic, BiCMOS logic, correct?
 24 A. Possibly.
 25 Q. What comes to mind if I use the phrase "custom
 Page 210

1 logic chip"?
 2 A. Custom logic chip is something that when --
 3 the first thing that comes to mind would be an
 4 application-specific circuit designed to execute some
 5 Boolean operation or some truth table.
 6 Q. What comes to mind when I use the phrase
 7 "reconfigurable logic"?
 8 A. There, I'd have to see some context.
 9 Nothing -- nothing is -- is just coming to mind. By
 10 the way, for all of these, I'm just giving you the
 11 first thing that comes to mind. But depending on the
 12 context, the response that I gave -- if you showed me
 13 the context I may say oh, no, that's not what I was
 14 thinking about. That's something else. All of these
 15 are context-specific.
 16 That one, nothing comes to mind.
 17 Q. Okay. What about the phrase "logic gate"?
 18 A. Logic gate is something that is defined by its
 19 input/output Boolean properties, like an AND gate or a
 20 NOR gate. It would -- so -- but that's it. All I have
 21 in mind is some sort of a function that this logic gate
 22 might perform, not what the logic gate is itself. Is
 23 it a truth table? It is a couple of transistors
 24 connecting a certain way? Is it a programmable
 25 computer? That -- that, I wouldn't know. But I would
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1 have some notion if you said "logic gate," something
 2 that is performing a Boolean operation like AND, or,
 3 NOR or something -- some such thing.
 4 Q. What do you understand if I use the phrase
 5 "computer program logic"?
 6 MR. BERTIN: Tony, you might need to slow down
 7 a little bit when you're going through these Boolean
 8 operations so the court reporter can get them down.
 9 THE WITNESS: Okay. So the question once
 10 again is?
 11 BY MR. LU:
 12 Q. What do you understood when I use the phrase
 13 "computer program logic"?
 14 A. Nothing. I need to see context.
 15 Q. What about the phrase "computer control
 16 logic"?
 17 A. Same answer.
 18 Q. Have you ever heard the -- strike that.
 19 Have you ever heard computer programs also
 20 being called "computer control logic"?
 21 A. No.
 22 Q. Would you disagree with a characterization of
 23 computer programs also being called "computer control
 24 logic"?
 25 A. Show me the context.
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1 Q. What about computer programs also called
 2 "computer control logic" being stored in main memory
 3 and/or secondary memory? Does that provide sufficient
 4 context to understand the meaning of "computer
 5 programs"?
 6 A. Run that past me again. I didn't absorb the
 7 question.
 8 Q. Strike that.
 9 Would the phrase "computer programs," in the
 10 context of being stored in main memory and/or secondary
 11 memory, provide you with any further understanding of
 12 what "computer control logic" might be?
 13 A. No.
 14 Q. Would you equate computer program stored in
 15 main memory and/or secondary memory with computer
 16 control logic?
 17 A. Show me the context. Possibly, but not
 18 necessarily. Don't know. Show me the context.
 19 Q. Would a computer program write -- recite
 20 sufficient structure to -- under means-plus-function --
 21 under your means-plus-function claim construction
 22 analysis?
 23 A. Are we talking about a specific element now in
 24 the claim as opposed to first things that come to mind?
 25 Q. First this that come to mind.

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1 A. I need -- I would need to see context.
 2 Q. So without seeing context, computer
 3 programming, in your mind, would be -- strike that.
 4 So without context, computer programs in -- in
 5 your mind may be purely functional language, thus
 6 subject to a means-plus-function analysis, correct?
 7 A. I -- I -- I -- I'm lost. What -- what --
 8 what -- what hypothetical are you posing now?
 9 Q. I'm just posing a hypothetical of the plain
 10 and ordinary meaning of the phrase "computer programs"?
 11 A. Are we talking about a means-plus-function
 12 limitation? Is that a claim term?
 13 Q. Is that a means -- would you interpret
 14 "computer programs" to be a means-plus-function claim
 15 term because it's purely functional in nature?
 16 MR. BERTIN: Object to form.
 17 THE WITNESS: Put the phrase in the context of
 18 the claim -- the -- the -- the -- this hypothetical
 19 claim limitation, and perhaps I could try to answer it,
 20 but I -- I -- I -- it's just too abstract.
 21 BY MR. LU:
 22 Q. Okay. What if it said "computer programs to
 23 add records to the database for newly discovered WIFI
 24 access points"? Would that be a means-plus-function
 25 claim element?

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1 A. So which claim element are you reading from
 2 now?
 3 Q. Well, if you were to substitute any of the
 4 claim elements that are identified in paragraph 84 with
 5 the phrase "computer program," would that still be a
 6 means-plus-function claim element?
 7 A. So as an example, let's take the first one.
 8 "Logic to recalculate position information." Do you
 9 want "logic" replaced by "computer program" too?
 10 Q. Correct.
 11 A. Well, I have not done that analysis, so I
 12 haven't got an opinion on that. I would need to reread
 13 the instructions I was given, and I might even need to
 14 ask some questions -- some points of clarification
 15 before I could offer an opinion on that.
 16 So do you want me to do all of that? Right
 17 now, I don't have an opinion on that.
 18 Q. Okay. How long do you think it would take you
 19 to render an opinion on that?
 20 A. Don't know. It might be a few minutes. It
 21 might be much longer than that. I -- claim
 22 construction is not something that can be rushed.
 23 There's a -- there's an analysis involved. And the
 24 first thing that I need to be sure that -- is that I'm
 25 applying the right standard. So I might even need -- I

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1 might first need to ask some questions concerning those
 2 standards.
 3 So I'm not sure if you -- if you want me to do
 4 that.
 5 Q. No. I -- I don't at this point.
 6 So in the context of the electronics field,
 7 the, word "logic" does not necessarily mean "a purely
 8 functional term;" is that correct?
 9 A. In the electronic -- the question as I heard
 10 it, in the electronics world, the term "logic" does not
 11 mean a purely functional --
 12 Q. It's not a purely functional word, correct?
 13 A. We need to see the context.
 14 Q. But there are circumstances in the electronic
 15 field where logic does denote a sufficient structure,
 16 correct?
 17 MR. BERTIN: Object to form.
 18 THE WITNESS: Yes. A circuit -- as an
 19 example, a circuit diagram representing the electronics
 20 on a chip that accomplishes some logical operation that
 21 might be presented in the form of a flow chart or a
 22 Boolean description or a truth table, I -- I -- I -- I
 23 don't know if I would call that a functional
 24 description.
 25

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1 So that might be an example of something of
 2 logic in electronics that's not purely functional.
 3 I've read the circuit diagram. That circuit diagram
 4 is -- is -- represents the electronics that has been
 5 fabricated on a chip. And it -- I know the Boolean or
 6 truth table functionality that the chip is performing.
 7 There I think there's some structure.
 8 Q. Is custom high-speed logic structural or
 9 functional?
 10 A. Don't know. I need to see the -- I would need
 11 to see the -- the context.
 12 Q. Are logic families structural or functional?
 13 Are commercially available logic families structural or
 14 functional?
 15 A. I need to see the context once again.
 16 MR. BERTIN: Object to form.
 17 BY MR. LU:
 18 Q. Is reconfigurable logic structural or
 19 functional?
 20 A. Well, I -- I -- I -- again -- and let me this
 21 time try to elaborate a little bit. I would need to
 22 see the context.
 23 If it's reconfigurable logic for performing a
 24 function and the specification included a block
 25 diagram -- a circuit block diagram of that

1 reconfigurable logic that performs that function, then
 2 that might denote something other than function.
 3 But if there's no description in the
 4 specification whatsoever about this reconfigurable
 5 logic for performing this function -- no Boolean
 6 operations, no truth tables, no flow chart -- then, in
 7 my opinion, that would be functional.
 8 Q. And --
 9 A. And that's why I said you'd need to tell me
 10 the context.
 11 Q. Is emitter-coupled logic structural or
 12 functional?
 13 A. I -- I don't even know how to comprehend that
 14 question. Does structural --
 15 Q. Does emitter-coupled logic bring to mind a
 16 structure, or is that a purely functional term?
 17 A. It brings to mind a class electronics, so it's
 18 neither structure nor function. It brings to mind a
 19 class of electronics.
 20 Q. Something that you can hold in your hand?
 21 A. It brings to mind a class of electronics.
 22 That's all. I know what emitter-coupled logic is.
 23 It's not necessarily something I can hold in my hand.
 24 It's a technology that can be used to build chips. So
 25 it's not something I can hold in my hand, no.

1 Q. Is a programmable logic array something that
 2 can be held in your hand?
 3 A. I can buy a PLA, a programmable logic array.
 4 But all that is is a bunch of gates that have not yet
 5 been programmed at that point. So that's -- that --
 6 that -- that -- it -- it -- it -- that's a bunch of
 7 gates.
 8 Q. Can you buy a emitter -- an emitter-coupled
 9 logic device?
 10 A. Let me see if I can help you out. Can I buy a
 11 chip that was built using emitter-coupled logic
 12 technology?
 13 Q. Sure.
 14 A. Yes.
 15 But once again, if I saw the phrase -- because
 16 again, we are talking here about -- I came here to
 17 testify about construction of certain phrases using
 18 these patents, and you're asking me a bunch of
 19 abstractions. So I need to be sure that you're not
 20 going to misapply some of the responses that I'm
 21 giving.
 22 If I saw emitter-coupled logic for performing
 23 some function in a claim specification and -- and --
 24 and -- and -- and in a claim -- it's a limitation of a
 25 claim, and the specification does not show me the block

1 diagram for that emitter-coupled logic, then whether I
 2 know that emitter-coupled logic thing is something I
 3 could hold in my hand or not is still being described
 4 functionally. I need the block diagram, a flow chart,
 5 something that's describing how this emitter-coupled
 6 logic is structured. I need something more than just
 7 the phrase "emitter-coupled logic."
 8 You're asking can I -- can I hold a chip that
 9 was built based upon emitter-coupled logic in my
 10 hand -- emitter-coupled logic technology. Answer, yes.
 11 If I see emitter-coupled logic for performing a
 12 function in a claim, I'd have to go back to
 13 specification to find out whether there's any
 14 disclosure of the blocked diagram, the circuit
 15 connections, a flow chart, something, to tell me when
 16 that emitter-coupled logic used in the claim is
 17 structure. And if it's not in the specification, then
 18 it will be my opinion that emitter-coupled logic is
 19 being described purely in functional terms.
 20 MR. LU: Why don't we take a short break since
 21 we're about to run out of tape.
 22 THE VIDEOGRAPHER: This marks the end of
 23 Media No. 3 of the deposition of Dr. Anthony Acampora.
 24 We're going off the record, and the time is
 25 4:30 p.m.

1 (A brief recess was taken.)
 2 THE VIDEOGRAPHER: Here begins Media No. 4 in
 3 the deposition of Dr. Anthony Acampora.
 4 We're back on the record. The time is
 5 4:39 p.m.
 6 BY MR. LU:
 7 Q. Dr. Acampora, I'd like you to turn to page 49
 8 of your declaration.
 9 A. I'm there.
 10 Q. And I'd like you to take a look at
 11 paragraph 121 and any other portions of this section
 12 that you need to review in order to answer any
 13 questions.
 14 First question I have for you is: Outside the
 15 context of the patent specification, do you have an
 16 understanding of what a "rule" is?
 17 A. So outside of the context of the patent, as I
 18 understood your question, I would understand a "rule"
 19 to be an instruction to be followed.
 20 Q. And --
 21 A. Like add a cup of water, mix thoroughly.
 22 Q. Would a rule also include a statement like:
 23 If A, do B; but if C, then do D?
 24 A. Again, we're outside the context of the
 25 patent?

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1 Q. Yes. Outside of the context --
 2 A. So you're asking is that -- is that an example
 3 of a rule? And suppose I know what A and B are and C
 4 and D are, then, yes, that might be a rule.
 5 Q. Okay. Now, outside the context of the patent
 6 specification, do you have an understanding of what a
 7 "predefined rule" would be?
 8 A. That's less clear. There I think one would
 9 need -- one would need some context to get an
 10 understanding of what a "predefined rule" is.
 11 Q. Do you have an understanding of the phrase
 12 "predefined" standing on its own --
 13 MR. BERTIN: Object to form.
 14 BY MR. LU:
 15 Q. -- outside of the context of the patent
 16 specification?
 17 A. Well, no. I -- I don't. I can tell you what
 18 comes to mind, but that's not to say that it's correct.
 19 So suppose I'm going to perform some process.
 20 But that's a big "if." I'm not sure that's a context
 21 in which "predefined" is being used or not. And again,
 22 we're not talking about the patent at all now.
 23 So maybe there's some sort of a process that's
 24 going to be performed. "Predefined" might mean
 25 something that was defined before this process was

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1 begun, as an example. That -- that might be, but I'm
 2 not sure that that would be the only understanding of
 3 "predefined." That's just by way of -- really more by
 4 way of example. So I don't know what a "predefined
 5 rule" is, absent context.
 6 Q. Okay. Let's turn to paragraph 123. The
 7 second sentence, referring back to the term "being
 8 suited," states that "it is applied apparently to
 9 different types of equations or algorithms that can be
 10 used for different numbers of access points."
 11 What is -- what did you mean when you wrote
 12 that sentence?
 13 MR. BERTIN: Object to form.
 14 THE WITNESS: Well, once again, I think the
 15 words speak for themselves. So are you asking me to
 16 state what I'm written here differently?
 17 BY MR. LU:
 18 Q. Well, I'm trying to understand what is meant
 19 here because it's not absolutely crystal clear to me
 20 what -- what you're stating here.
 21 A. Well, in a role reversal, let me ask, what's
 22 not clear about it?
 23 Q. Well, the word "apparently to different types
 24 of equations or algorithm," what equations or
 25 algorithms are you referring to there?

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1 A. Well, in -- in the claims, if I look at -- if
 2 we look at claim 1 of the 245 patent, next to last
 3 element, the claim speaks about choosing a
 4 corresponding location/determination algorithm. From
 5 plurality of the location/determination algorithms,
 6 said chosen algorithm being suited for the number of
 7 identified WIFI access points.
 8 So your question was, as -- as I understood
 9 it, related to what's the location determination
 10 algorithm? Was that your question?
 11 Q. Well, my -- my question was, what are you --
 12 to what were you referring when you made reference to
 13 "algorithms" in that second sentence of paragraph 123?
 14 MR. BERTIN: Object to form.
 15 THE WITNESS: Different methodologies.
 16 Methodologies expressed by some sort of a mathematical
 17 relationship.
 18 BY MR. LU:
 19 Q. So an algorithm requires a methodology
 20 expressed by a mathematical relationship, correct?
 21 A. Well, mathematical in the most general sense.
 22 It might be some sort of a -- it might be Boolean math
 23 as opposed to real-number arithmetic. But there'd be a
 24 procedure to be followed. Well, it's equations or
 25 algorithms. So a procedure to be followed. And I

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1 guess it may be expressed by means of some sort of
 2 logic or instructions or mathematical symbolism. But
 3 that's what I get from reading the specification.
 4 BY MR. LU:
 5 Q. So an algorithm in this instance can be an
 6 equation, Boolean logic, a series of instructions.
 7 Anything else?
 8 A. Well, let me go back to the specifications.
 9 MR. BERTIN: Can you read back the question?
 10 (Record read.)
 11 MR. BERTIN: Object to form.
 12 THE WITNESS: Okay. Here's the difficulty
 13 that I'm having in addressing your question. But by
 14 explaining the difficulty, maybe I'll answer your
 15 question.
 16 "Being suited" appears in claim 1 of the 245
 17 patent. And I read some of the claim language, and
 18 that claim language, again, is suggesting that there
 19 are different types of -- let's be specific --
 20 different types of algorithms -- different algorithms,
 21 in any event, that it be chosen from among. So I'm
 22 going to choose an algorithm being suited from some
 23 number of algorithms.
 24 And again, these algorithms are described in
 25 the specification. Specification refers to simple

1 signal strength, weighted models, nearest neighbor
 2 models combined with triangulation techniques, adapted
 3 smoothing based on device velocity, different equations
 4 perform better under different scenarios and tend to be
 5 used together in hybrid deployments to product the most
 6 accurate final readings. Preferred embodiments --
 7 (Reporter interruption.)
 8 THE WITNESS: Preferred embodiments of the
 9 invention can use a number of positioning algorithms.
 10 Decision of which algorithm to use is driven by the
 11 number of access points observed and the user case
 12 application using it."
 13 And it goes on. But it describes some
 14 filtering techniques, common filters. That's where the
 15 math -- or the equations come in. But also some broad
 16 references made to all of these algorithms from among
 17 which one might be chosen -- that one being best
 18 suited, whatever that means -- there's actually only
 19 one algorithm this close. I actually don't know
 20 what -- all of the different algorithms are. The
 21 patent doesn't tell me what they are. It simply says,
 22 there are a whole bunch of different things that you
 23 could do, but it doesn't reveal what they are, except
 24 in one instance -- the equations appearing in column
 25 12, or the same equations weighted by the C parameter

1 in the event that the numerical accuracy needs to be
 2 improved.
 3 So there are a set of equations, and -- given
 4 in column 12. And when I go back to the claim, I see
 5 that the claim actually requires some plurality of the
 6 algorithms. And then I'm gonna -- and I'm not sure
 7 what those algorithms are. There's one algorithm
 8 that's actually shown. And then I'm going to choose
 9 one that's best suited, whatever that means.
 10 So I'm concluding that these algorithms are
 11 rules or mathematical descriptions, something of this
 12 type, based upon what I'm reading here.
 13 BY MR. LU:
 14 Q. The patent claims reference that the
 15 algorithms can include a simple, signal-strength,
 16 weighted, average model. Do you see that? That's in
 17 the appended claim 6?
 18 A. I do.
 19 Q. Do you have an understanding of what a simple,
 20 signal-strength, weighted, average model would be?
 21 A. Well, I think we discussed that earlier today.
 22 Q. Fair enough. So I think it the answer is
 23 "yes"?
 24 A. I -- well, yes.
 25 Q. Okay. Dependent claim 7 says: "The plurality

1 of the location determination algorithms includes the
 2 nearest neighbor model."
 3 Do you know what a "nearest neighbor model" is
 4 in terms of a location determination algorithm?
 5 A. No.
 6 Q. Okay. Claim 8 says: "The plurality of the
 7 location determination algorithm includes a
 8 triangulation technique."
 9 Do you know what a "triangulation technique"
 10 would be in the context of location determination?
 11 A. Yeah. I believe I have an opinion on that in
 12 my report. I think I know what a -- what -- what a
 13 triangulation technique is.
 14 A location determination algorithm that
 15 includes a triangulation technique -- not from what I'm
 16 seeing in this specification, no. In fact, I'm finding
 17 that to be quite ambiguous.
 18 Q. Okay. Do you have a -- turning to dependent
 19 claim 9, do you have an understanding of what an
 20 "adaptive smoothing technique based on device velocity"
 21 might be in the context of a location determination
 22 algorithm?
 23 A. Well, I might have some understanding of what
 24 an adaptive smoothing technique is. Based upon device
 25 velocity, no. But moreover, the claim is to -- is

1 referring back to the method of claim 1, wherein the
 2 plurality of location determination algorithms includes
 3 an adaptive smoothing technique based on device
 4 velocity.
 5 Well, here, I have some understanding of what
 6 adaptive smoothing is. Adaptive smoothing based on
 7 device velocity, no. And location determination
 8 algorithm including adaptive smoothing technique based
 9 on device velocity, again, no. Not from what's taught
 10 in the specification and not from anything outside of
 11 this either.
 12 Q. Now, if one were to have multiple location
 13 determination algorithms and use each of those multiple
 14 location determination algorithms with a particular
 15 number of WIFI access points and determine that one
 16 performed better than the others, is that something
 17 that one of ordinary skill in the art could do?
 18 A. I'm going to ask you to repeat that question.
 19 But first, we need to do something about the glare that
 20 is blinding me right now.
 21 Q. Which pane is it coming through?
 22 A. It's coming through this one here, but I'm not
 23 sure what we can do since those shades are not
 24 providing enough -- now, we may actually need to hang
 25 something up. That -- that -- that just is -- I --

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1 I -- I -- I really can't go on like this, at least not
 2 in this position.
 3 MR. BERTIN: Do you want to take a break?
 4 MR. LU: Sure. Let's take a short break.
 5 MR. BERTIN: And reposition you is probably
 6 the easiest thing.
 7 THE VIDEOGRAPHER: We're going off the record.
 8 The time is 4:58 p.m.
 9 (A brief recess was taken.)
 10 THE VIDEOGRAPHER: We're back on the record.
 11 The time is 5:07 p.m.
 12 BY MR. LU:
 13 Q. I'd like you to turn to page 51, and
 14 specifically paragraph 125 of your declaration. Second
 15 sentence of paragraph 125 states: "As discussed above
 16 the common specification is dominated by a single
 17 method for creating the database, which involves
 18 driving a vehicle in a systematic manner along every
 19 street."
 20 Do you see that?
 21 A. I do.
 22 Q. What do you mean by "dominated by a single
 23 method"?
 24 A. Okay. Well, we had a good deal of discussion
 25 about this for much of today.

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1 Q. Well, let me narrow my question a little bit.
 2 When you say "dominated by a single method,
 3 are there alternative methods disclosed in the patent
 4 specification for creating the database?
 5 MR. BERTIN: Object to form.
 6 THE WITNESS: No. There were -- there were --
 7 there are one-sentence sound bytes, if you will, but no
 8 discussion of how it would be done, leaving one to sort
 9 of scratch one's head -- what's meant by this.
 10 BY MR. LU:
 11 Q. Would one of ordinary skill in the art know
 12 how to create a database which involves driving a
 13 vehicle in a systematic manner around -- along every
 14 street without using the Chinese postman model?
 15 A. Not without some further description.
 16 Q. Would one of ordinary skill in the art know
 17 how to drive a vehicle in a systematic manner along
 18 every street without utilizing the Chinese postman
 19 model?
 20 A. Would one know how as opposed to could one
 21 create some alternative to the Chinese postman?
 22 Q. Well, let's --
 23 A. No. I think one would -- would need to ponder
 24 that for a while and figure out how to do it.
 25 Q. What is your --

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1 A. And then there'd also be some limitations of
 2 cost, time, and other factors to take into
 3 consideration as well.
 4 Q. What do you mean by "there could also be some
 5 limitations of cost, time, and other factors to take
 6 into consideration as well"?
 7 A. Well --
 8 MR. BERTIN: Object to form. Asked and
 9 answered.
 10 THE WITNESS: If I thought about it, I could
 11 probably create some sort of a brute-force approach,
 12 like marking on a map every street that I've driven
 13 along and then occasionally looking at the -- the --
 14 the -- the marked-up map to see where I haven't driven
 15 and then go back out and drive those. And by brute
 16 force, given enough time and given enough money and
 17 given enough gasoline, eventually being sure that every
 18 street on my map has an X to it. That's brute force.
 19 But even that's not suggested in the patent at
 20 all. So I don't think that was -- that was the intent.
 21 There's a systematic manner, not a brute-force manner.
 22 And I don't know what that system -- what -- the only
 23 systematic manner that's disclosed is the Chinese
 24 postman, and one would have to create an alternative --
 25 in my opinion, one would have to create an alternative

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1 systematic manner.
 2 And then, again, there might be some
 3 limitations based upon cost and time. The
 4 specification tells us that this Chinese postman is
 5 driving each street such that the total distance
 6 traveled is minimized. So this clearly calls for a
 7 time constraint associated with what the inventors had
 8 in mind here.
 9 BY MR. LU:
 10 Q. I'd like you to turn to page 56 and,
 11 specifically, paragraph 137 of your declaration.
 12 A. I'm there.
 13 Q. Okay. So you state that Skyhook's proposal
 14 does not conform to the applicant's stated goal of
 15 collecting more complete information. And you further
 16 state that "by rewriting the claim to insert 'observed'
 17 into substantially all WIFI access points so that it
 18 become substantially all observed WIFI access points,
 19 Skyhook is divorcing the methodology disclosed in the
 20 specification, collecting access points using a planned
 21 route from the intended resulting method to fully
 22 explore and cover the streets of a target region in
 23 order to gain more access points than would be achieved
 24 through random collection."
 25 Do you see that?

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1 A. I do.
 2 Q. What is -- what did you mean when you wrote
 3 those two sentences?
 4 A. Well, those two sentences follow the first
 5 sentence that -- the first couple sentences in this
 6 paragraph. And in my opinion, all Skyhook did in this
 7 proposed construction was include a further limitation,
 8 substantially all observed WIFI access points -- or the
 9 claim language states substantially all WIFI access
 10 points.
 11 So what this means is -- and what's shown
 12 the -- the -- in the specification, the objective is to
 13 really capture all the access points. And you're going
 14 to drive and observe until you've -- you're going to
 15 drive and measure, I should say, until you've
 16 accomplished that. And if you can't observe an access
 17 point from one location, perhaps you'd be more
 18 successful in some other location. But you're going to
 19 give it your best shot. You're going to try to capture
 20 all of them.
 21 Q. But would this claim limitation be met if
 22 you're unable to capture all of them?
 23 A. Well, that's depends. "Substantially all WIFI
 24 access points" is somewhat subjective. But in reading
 25 the specification, I understand that what the inventors

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1 had in mind, once again, is driving this deliberate
 2 planned Chinese postman routing algorithm in a heroic
 3 attempt to capture all of them. Now, they might miss
 4 some. And that's why in my proposed construction, I
 5 believe I included the word -- let me not guess.
 6 Q. "All but an insignificant number," I believe
 7 was your claim construction.
 8 A. "All but an insignificant number of WIFI
 9 access points."
 10 Q. Would this claim limitation require the
 11 capture of WIFI access points that are not observable
 12 from driving along a street?
 13 A. Well, again, we got to be careful. The --
 14 the -- the patent also mentions this special --
 15 specially equipped van. By the way, I have lot of
 16 familiarity with driving vans and making radio
 17 measurements based upon special equipment that's loaded
 18 into these vans.
 19 But the patent actually describes the use of
 20 directive antennas. So they're really describing a
 21 heroic attempt to capture all access points. These
 22 directive antennas are making WIFI access points that
 23 might otherwise not be observable -- more observable --
 24 by pointing the antenna and trying to detect a signal,
 25 as opposed to the use of an omnidirectional antenna --

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1 without getting too technical -- the gain of an
 2 omnidirectional antenna is much lower than that of a
 3 directive antenna. And the patent is telling you this
 4 is a special van -- I'm even using directive antennas.
 5 This is an heroic attempt to capture all access points
 6 by pulling the signals out of the noise by means of
 7 this directive antenna. It's -- it's clear what
 8 they're trying to do it.
 9 Q. To capture all but an insignificant number
 10 using the techniques that are disclosed with respect to
 11 the van, correct?
 12 A. The claimed invention involves capturing all
 13 but an insignificant number of WIFI access points in
 14 the target area. That's one of the limitations of the
 15 invention.
 16 And if I can go on and elaborate just a little
 17 bit. It does that by using the specially equipped van
 18 directive antennas, and deliberate -- and driving that
 19 van along a deliberate route, including every street,
 20 Chinese postman -- we've been discussing for much of
 21 this day -- to capture all but an insignificant number.
 22 Q. Now, let's assume a scenario where you're in a
 23 city where everyone shields their WIFI access points
 24 using Faraday cages surrounding the building to prevent
 25 EM signals -- electromagnetic signals -- from escaping

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1 their building.
 2 Would all but an insignificant number, as you
 3 interpret that claim, require the capture of those WIFI
 4 access points that are shielded so that they cannot be
 5 captured from the street, using any technology?
 6 A. I -- I understand the question. What claim
 7 are we discussing here?
 8 Q. Well, both of the independent claims, the 988
 9 and the 694 patents.
 10 A. So let's just discuss one of them. I
 11 haven't -- I haven't reached the 988 patent first.
 12 So as I understood your question, if all of
 13 the access points were enclosed in the Faraday cage --
 14 let's say a small Faraday cage -- not one that would
 15 actually extend over streets that a van -- that the van
 16 is driving up and down. But these are small Faraday
 17 cages that don't extend over any streets.
 18 Then I don't think that -- I can't imagine the
 19 situation where one would -- where one could infringe
 20 this claim if every access point were captured in a
 21 Faraday cage. But because there would be no access
 22 points in the database. There wouldn't be no database
 23 of WIFI access points in that case.
 24 Q. So by that reasoning as well, one would not
 25 infringe the claim if somehow all of the -- all but an
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1 insignificant -- strike that.
 2 So by that same reasoning, if building
 3 interference alone was sufficient to prevent WIFI
 4 access point signals from exiting the building and
 5 being captured on the street, those WIFI access points
 6 would still need to be captured. And all but an
 7 insignificant number would need to be captured in order
 8 to infringe the claim, correct?
 9 A. Well, the claim requires a database of WIFI
 10 access points. And included in that database are
 11 records for substantially all WIFI access points in the
 12 target area. And substantially, all means -- all but
 13 an insignificant number of. Well, again, since we're
 14 dealing with the claim term, let me be precise.
 15 The disputed term is substantially all WIFI
 16 access points. And my proposed construction is -- and
 17 I should have bold fast -- faced these constructions so
 18 I could find them easily. "All but an insignificant
 19 number of WIFI access points in the target area."
 20 So in the scenario that you just painted, some
 21 reason the signals can't get out of the buildings, but
 22 you haven't put in Faraday cages, which means some of
 23 the signals did leak out. You're not -- so we're no
 24 longer talking about a complete electromagnetic shield.
 25 Then you made your heroic attempt; you've done the
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1 Chinese postman routing; you've used the special van
 2 with the directive antennas.
 3 One of the problems I'm having is that the
 4 patent doesn't tell you how much directivity to use in
 5 these antennas. So if I have something other than a
 6 perfect shield around these access points, I could
 7 deploy a van with a sufficiently large aperture antenna
 8 that I'm going to capture all but an insubstantial
 9 number of the access points by driving this Chinese
 10 postman routing algorithm.
 11 And maybe it's in the eye of the beholder. If
 12 after the end of the day, whoever is responsible for
 13 gathering data comes back to the -- back to the office
 14 and concludes, I haven't got enough files. I know
 15 there were more access points out there. Maybe the
 16 next day they go back out with a bigger antenna. I
 17 don't know.
 18 Q. But what your -- but the claims -- all but --
 19 substantially all of the WIFI access points, as you
 20 understand it, requires a heroic effort, including the
 21 use of directional antennas, such as the ones that are
 22 disclosed in the patent specification?
 23 MR. BERTIN: Object to form. Mischaracterizes
 24 his testimony.
 25 THE WITNESS: That's not what I said.
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1 The patent mentions the use of directive
 2 antennas. Whether they're necessary or not to -- I
 3 don't think that the use of the directive antennas is
 4 necessarily a limitation of the claim.
 5 But unless you've gotten all but an
 6 insubstantial number of those access points recorded in
 7 the database, you haven't met this claim limitation.
 8 And perhaps the only way to get to that point is by
 9 deploying a van with directive antennas. It depends on
 10 the situation.
 11 BY MR. LU:
 12 Q. So continuing on with that paragraph, you
 13 state: "Skyhook's rewriting would exclude the purpose
 14 of the disclosed collection method from the boundaries
 15 of the claim. For example, a target area might be
 16 scanned in 500 WIFI access points included in the
 17 database of claims. Six months later, there might now
 18 be 1,000 WIFI access points in that same area. If the
 19 target area had not been rescanned during that time,
 20 the database would still have 500 access points and
 21 will still have substantially all observed WIFI access
 22 points simply because no observations had been made
 23 during a time in which the actual number of WIFI access
 24 points present changed dramatically. Skyhook's
 25 proposed construction would destroy the usefulness of
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1 the alleged improved location system."
 2 What do you mean by that --
 3 A. Okay.
 4 Q. -- series of sentences?
 5 A. Okay. So let me try to explain that. Here,
 6 some explanation perhaps is -- is called for. I think
 7 the words speak for themselves, but you asked for an
 8 explanation, so let me try to give that to you.
 9 I go out on January 15th, and I scan the
 10 target area, using the Chinese postman algorithm. And,
 11 in fact, I record locations of 500 access points. Now,
 12 let's suppose that between January 15th and, let's
 13 say, July 15th, when I'm going to go out and rescan,
 14 500 more access points were installed.
 15 If I went out and actually -- let's say I -- I
 16 go out -- I'm -- I'm -- I'm -- I'm not the person that
 17 did the original scan. I'm not the one who's going to
 18 rescan in July. I'm a different company. And I go
 19 out, and I follow the patent. I -- but I -- I
 20 substitute substantially all observed WIFI access
 21 points to -- substantially all WIFI access points into
 22 the claim, and I meet every other claim limitation. I
 23 would not infringe that claim. I would not infringe
 24 the claim because the observed access points made on
 25 January 15th were a subset of those that actually
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1 existed sometime later.
 2 So I -- I guess the point is, as stated here,
 3 if the limitation involves all observed WIFI access
 4 points rather than -- substantially all observed access
 5 points rather than substantially all WIFI access
 6 points, I'm not sure what's happening as the number of
 7 access points is being increased because they have not
 8 yet been observed. So have I captured substantially
 9 all of the observed access points when the database was
 10 originally built based upon 500 that were observed and
 11 now an additional 500 observable ones were installed --
 12 they have not yet been observed -- there's some
 13 temperable ambiguity that would be introduced by
 14 Skyhook's construction.
 15 Q. Now, would the database, as it existed on
 16 January 15th, infringe?
 17 A. Oh, I don't know. I -- I -- I don't know.
 18 You'd have to tell me what other -- if -- if -- if --
 19 if all of the other limitations were somehow met --
 20 Q. If all of the other --
 21 A. -- given the fact there were a bunch of
 22 ambiguities in here, I -- I -- I don't know.
 23 Q. If all the other limitations were met, would
 24 the database in existence on January 15th with 500
 25 access -- with 500 access points infringe, given the
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1 fact that there were in existence only 500 access
 2 points in that region?
 3 MR. BERTIN: Object to form.
 4 THE WITNESS: I -- I -- I think we're actually
 5 getting into the -- the realm of the unreal, and --
 6 and -- and here's why.
 7 I think the claim is indefinite. So I don't
 8 know how -- I -- I wouldn't know if I have or have not
 9 infringed this claim because I don't know the
 10 boundaries of this claim.
 11 BY MR. LU:
 12 Q. My hypothetical assumed that all of the other
 13 limitations were infringed. And the only one we're
 14 looking at is substantially all WIFI access points in
 15 the target area.
 16 A. I -- I don't --
 17 MR. BERTIN: Object to form.
 18 THE WITNESS: I can't even conceptualize that
 19 because I don't know how you would meet these other
 20 claim limitations. I can't imagine the situation that
 21 you're -- that you're -- that you're trying to
 22 characterize now because I don't know what these
 23 limitations mean.
 24 BY MR. LU:
 25 Q. Let me ask you differently then.
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1 Looking -- focusing only on substantially all
 2 WIFI access points in the target area. Would that
 3 limitation be met -- and only that limitation be met --
 4 by the hypothetical January 15th database that
 5 included the 500 WIFI access points based upon a scan
 6 taken on January 15th?
 7 A. Depends upon whether that 500 includes
 8 substantially all. If there were only 500, and they
 9 were all in there, then that would have been met.
 10 Q. Okay.
 11 A. If the actual number is equal to the number
 12 that's put into the database, then I think that
 13 substantially all the access points would have been
 14 included.
 15 Q. Now, is it your view that it would be
 16 impossible to determine whether substantially all WIFI
 17 access points in a target area would be stored in a
 18 database?
 19 A. That's another question. I don't think I have
 20 an opinion on that at this time.
 21 What I was asked to do in this assignment was
 22 offer my opinion as to how one should construe
 23 substantially all WIFI access points -- and we
 24 discussed my proposed construction several times -- all
 25 but an insignificant number of WIFI access points in
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1 the target area. I think you're asking me a different
 2 question.
 3 If -- here's what I'm hearing you ask. If
 4 substantially, all WIFI access points means all but an
 5 insignificant number of WIFI access points in the
 6 target area, would I know what that claim limitation
 7 meant?
 8 Q. Would I know whether that claimed limitation
 9 were ever met?
 10 A. I don't know. I -- I actually have not got an
 11 opinion on that. I would need to think about that
 12 probably fairly deeply. I -- I don't know.
 13 Q. Because I wouldn't know -- because one
 14 wouldn't know whether or not some paranoid, wearing an
 15 aluminum foil hat hasn't put, you know, 1,000 WIFI
 16 access points within a Faraday cage within his
 17 building, correct?
 18 MR. BERTIN: Object to form.
 19 THE WITNESS: That's not the only reason.
 20 BY MR. LU:
 21 Q. But there are other reasons because a WIFI
 22 access point might be located underground not -- and
 23 still in a target region, correct?
 24 A. That's another reason.
 25 There are -- that's the problem why I -- at

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1 this point I actually haven't got an opinion on that
 2 because I'd have to think about these different
 3 scenarios and which one of those were covered by the
 4 claims and which ones are -- are not covered by the
 5 claims. I -- I don't know. The -- the -- the -- the
 6 claim might be indefinite for that reason. It's --
 7 it's -- in my opinion, it is indefinite for other
 8 reasons. But that particular reason, I don't actually
 9 have an opinion on that at this moment.
 10 I wasn't have to provided one, and I didn't.
 11 I was just asked to give my opinion as to, what
 12 substantially all WIFI access points means.
 13 Q. Would, substantially, all WIFI access points
 14 require one to take a survey of possible WIFI access
 15 point holders in order to determine whether they have a
 16 WIFI access point in the target area.
 17 MR. BERTIN: Object to form. Asked and
 18 answered.
 19 THE WITNESS: I didn't understand the
 20 question.
 21 BY MR. LU:
 22 Q. How would one count -- how would one determine
 23 what all of the WIFI access points would be in a
 24 particular target area?
 25 Let me put it to you differently.

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1 A. I haven't formed an opinion on that.
 2 Q. Let me put to you differently.
 3 As an expert in WIFI technology, if I were to
 4 ask you how would you go about determining the number
 5 of WIFI access points on the island of Manhattan, how
 6 would you go about doing that?
 7 He smiles.
 8 A. Yes.
 9 MR. BERTIN: Object to form.
 10 THE WITNESS: First, you'd have to give me the
 11 budget. Then I would tell you if I thought it was
 12 possible, given the budget and the time. So you -- you
 13 need to give me --
 14 BY MR. LU:
 15 Q. Million dollars. Million dollars and one
 16 year.
 17 MR. BERTIN: Object to form.
 18 BY MR. LU:
 19 Q. That's the budget; that's the time.
 20 A. You know, I -- even then I'm not sure it could
 21 be done. One thought that's going through my mind is
 22 setting out on foot, knocking on doors, looking for
 23 access points, and maybe even needing to buy my way
 24 into the premises to do a visual inspection. So I -- I
 25 might run out of your million-dollar budget before I

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1 got a -- if I start at Battery Park, I may not get past
 2 Wall Street and run out of budget. I -- I don't know.
 3 You're really creating a -- a -- a wild hypothetical
 4 here.
 5 Q. And it would be crazy because they'd be adding
 6 WIFI access points, potentially, in Battery Park by the
 7 time you got up to Wall Street, right?
 8 A. Well, that's another problem.
 9 Q. Okay.
 10 MR. LU: Can we take a short break, figure out
 11 if we have any other --
 12 MR. BERTIN: Sure.
 13 MR. LU: -- what other line of questioning,
 14 and then maybe conclude.
 15 THE VIDEOGRAPHER: We're going off the record.
 16 The time is 5:36 p.m.
 17 (A brief recess was taken.)
 18 THE VIDEOGRAPHER: We're back on the record.
 19 The time is 5:40 p.m.
 20 MR. LU: We have no further questions, and so
 21 we can go off the record.
 22 MR. BERTIN: Okay. And I have no -- I have no
 23 questions either. Thanks to all.
 24 MR. LU: Thank you.
 25 THE VIDEOGRAPHER: This concludes today's

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1 deposition of Dr. Anthony Acampora. The number of
 2 media used was four.
 3 We are going off the record. The time is
 4 5:41 p.m.
 5 (Deposition was concluded at 5:41 p.m.)
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1 DECLARATION UNDER PENALTY OF PERJURY
 2
 3
 4 I, Anthony S. Acampora, Ph.D., the witness
 5 herein, declare under penalty of perjury that I have
 6 read the foregoing in its entirety; and that the
 7 testimony contained therein, as corrected by me, is a
 8 true and accurate transcription of my testimony
 9 elicited at said time and place.
 10
 11 Executed this _____ day of _____ 2011,
 12 at _____,
 13 (City) (State)
 14
 15
 16
 17
 18
 19 _____
 20 Anthony S. Acampora, Ph.D.
 21
 22
 23
 24
 25

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1 ERRATA SHEET
 2 Pg/Ln Corrections
 3 ___/___ Change from: _____
 4 Change to: _____
 5 ___/___ Change from: _____
 6 Change to: _____
 7 ___/___ Change from: _____
 8 Change to: _____
 9 ___/___ Change from: _____
 10 Change to: _____
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 19 ___/___ Change from: _____
 20 Change to: _____
 21 ___/___ Change from: _____
 22 Change to: _____
 23 ___/___ Change from: _____
 24 Change to: _____
 25 Signature: _____ Date: _____

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1 I, the undersigned, a Certified Shorthand
 2 Reporter of the State of California, do hereby certify:
 3 That the foregoing proceedings were taken
 4 before me at the time and place herein set forth; that
 5 any witnesses in the foregoing proceedings, prior to
 6 testifying, were duly sworn; that a record of the
 7 proceedings was made by me using machine shorthand
 8 which was thereafter transcribed under my direction;
 9 that the foregoing transcript is a true record of the
 10 testimony given.
 11 Further, that if the foregoing pertains to
 12 the original transcript of a deposition in a Federal
 13 Case, before completion of the proceedings, review of
 14 the transcript [x] was [] was not requested.
 15 I further certify I am neither financially
 16 interested in the action nor a relative or employee of
 17 any attorney or party to this action.
 18 IN WITNESS WHEREOF, I have this date
 19 subscribed my name.
 20
 21 Dated: 9-26-11
 22
 23
 24
 25 _____
 Claire A. Wanner
 CSR NO. 12965, RPR

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