

RECORD OF ORAL HEARING
U.S. PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

COMCAST CABLE COMMUNICATIONS, LLC,
Petitioner,

v.

ENTROPIC COMMUNICATIONS, LLC,
Patent Owner.

Case IPR2024-00430 (Patent 8,284,690 B2)

Oral Hearing Held: June 4, 2025

Before JON M. JURGOVAN, FREDERICK C. LANEY, and
AARON W. MOORE, Administrative Patent Judges.

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The above-entitled matter came on for hearing Monday, June 4, 2025, commencing at 10:00 a.m., at the U.S. Patent and Trademark Office, Southwest Regional Outreach Office, 207 S. Houston Street, Suite 159, Dallas, Texas.

P-R-O-C-E-E-D-I-N-G-S

(10:00 a.m.)

JUDGE JURGOVAN: Okay, we'll go on the record now, Mr. Morris. This is the trial hearing for IPR 2024-00430 concerning U.S. Patent No. 8,284,690 B2. The date is June 4th, 2025, 11:00 a.m. Eastern. On the Panel with me today are Judges Laney and Moore. I'm Jon Jurgovan.

Would the parties please enter their appearances, starting with the Petitioner, please?

MR. KRONENTHAL: Yes, Your Honor, Craig Kronenthal for Petitioner.

JUDGE JURGOVAN: Thank you. And Patent Owner?

MR. GALLUZZO: Vince Galluzzo from K&L Gates on behalf of Patent Owner. With me is lead counsel Jason Engel, my colleague Nathan Fuller, and also Jared Lund.

As a point of order, Your Honor, we have put in a LEAP request for Mr. Matthew Blair, which was granted. Unfortunately, Mr. Blair has become ill and so cannot attend in person. So I'll be doing the presentation today, the entire presentation.

JUDGE JURGOVAN: Well, the LEAP program is for, you know, people that have three or fewer arguments, so I understand you to say that we're not going to do the extra 15 minutes for this hearing. MR. GALLUZZO: Exactly right, Your Honor.

JUDGE JURGOVAN: All right, good. Thank you. As the hearing order --

MR. KRONENTHAL: I --

JUDGE JURGOVAN: Oh, go ahead. I'm sorry.

MR. KRONENTHAL: I didn't introduce my other co-counsel. It slipped my mind.

1 JUDGE JURGOVAN: Oh, please.

2 MR. KRONENTHAL: Sorry. With me today from Banner & Witcoff with
3 me is Camille Sauer from Banner & Witcoff and Fred Meeker. And I believe we
4 have some people from Comcast on the line. Heather Fulton, she's the Vice
5 President and Senior Deputy General Counsel of Intellectual Property. And Kevin
6 Chung, he's the Assistant Deputy General Counsel.

7 JUDGE JURGOVAN: Okay, thank you.

8 MR. KRONENTHAL: Thank you, sir.

9 JUDGE JURGOVAN: The hearing order stated that each party will have up
10 to 60 minutes for their arguments. Petitioner in this case bears the burden so
11 Petitioner will start followed by the Patent Owner. Each party may reserve time
12 for rebuttal and sur-rebuttal, respectively, limited to the opposing party's
13 presentation.

14 You can share your demonstratives if you like or we could follow along if
15 you call out the page numbers and exhibit numbers, et cetera. So as you're going
16 through your presentations, please do identify what you're referring to either by the
17 slide number for your demonstratives or the exhibit or paper number so that we can
18 follow along and the record will be clear as to what you're referring to.

19 Please identify yourselves as you begin speaking so that the Court Reporter
20 will know who you are. And then after the hearing, please remain in the room so
21 that you may answer any questions the Court Reporter might have had regarding
22 matters that were not understood or terms that were used and not understood.

23 If at any time you experience technical difficulties, we'll observe a pause
24 until those are cleared up. There has been no information in the file identified as
25 confidential. If for some reason you need to discuss confidential information, let
26 us know in advance so that we can close off the public line.

1 Did the parties have any further questions before we begin?

2 MR. KRONENTHAL: No, Your Honor.

3 MR. GALLUZZO: No, Your Honor.

4 JUDGE JURGOVAN: Okay, good. Petitioner, how much time would you
5 like to reserve for rebuttal?

6 MR. KRONENTHAL: Ten minutes, Your Honor.

7 JUDGE JURGOVAN: Ten minutes, okay. Patent Owner, how much time
8 would you like to reserve for rebuttal, surrebuttal?

9 MR. GALLUZZO: We'll also reserve ten minutes, Your Honor.

10 JUDGE JURGOVAN: Ten, okay. Thank you.

11 MALE PARTICIPANT: If I can ask --

12 JUDGE JURGOVAN: Petitioner -- we are ready when you are.

13 MALE PARTICIPANT: If I can ask for when the parties are speaking from
14 the table if they can press the button on the --

15 MALE PARTICIPANT: Release that mic for a moment. I think Judge
16 Moore fell off.

17 JUDGE JURGOVAN: And we apparently are trying to reconnect to Judge
18 Moore. While we're bringing back Judge Moore, I want to explain these lights to
19 you. So the green light means you're into your primary time, the yellow light
20 means you're into your rebuttal time, and then the red light means your time has
21 expired, so just to let you know.

22 Okay, I think we're back. Petitioner, when you're ready.

23 MR. KRONENTHAL: Yes. So, good morning, Your Honors. Craig
24 Kronenthal from the law firm of Banner & Witcoff on behalf of Petitioner,
25 Comcast Cable Communications. Your Honors, I would like to begin on Slide 3.

1 So Slide 3 shows an overview of the '690 Patent. The Patent is directed to a
2 receiver determined probe.

3 So a probe request is generated by the receiver and dictates a form of the
4 probe that's sent back. So we see this on the slide. This is from Figure 4 of the
5 patent on the left-hand side, you see the probe receiver highlighted in yellow. It
6 generates a probe request.

7 The probe request is sent is sent to the probe transmitter highlighted in
8 green. The probe transmitter receives the requests, generates the probe according
9 to parameters in the request and then sends the probe signal back to the receiver.

10 I would like to now turn to Slide 4. Slide 4 shows the relationship of
11 independent Claim 1 to that same Figure 4. So you can see that independent Claim
12 1 is written from the perspective of the probe transmitter.

13 The key feature that the Patent was directed towards, the request that dictates
14 the form of the probe is highlighted in light blue in Limitation 1C. Entropic has
15 not argued for that key feature. So it is undisputed that the prior art teaches the key
16 feature of the patent.

17 Instead, their arguments pertain to the meaning of probe in the Limitation
18 1A, specifically, that last wherein clause of 1A where it says Wherein, the first
19 formality of perimeters at least specify content payload of the probe in a second
20 node.

21 So much of our discussion we'll talk about that, but now I would like to turn
22 to Slide 5. Here we see independent Claim 9. independent Claim 9 is written from
23 the perspective of the probe receiver and so it flips the usage of the first and second
24 nodes, but it also, but it still has the key feature highlighted in light blue.

1 It does not, however, have the limitations that were in that wherein clause
2 from Limitation 1A. Claim 9 though there's another difference. It uses the term
3 physical layer probe. That's bulleted and underlined there.

4 And I'll discuss how all our prior art probes also relate to the physical layer
5 probe and not just simply the probe. So if we could now turn to Slide 6. Slide 6
6 shows the third and last independent claim. It's a blend of Claims 1 and 9. It uses
7 the terms first and second node in the same way Claim 9 uses those.

8 And it also has that physical layer of probe terminology that Claim 9 uses,
9 but then it has some of the similar limitations to 1A and has the steps written out at
10 the end similar to Claim 1. So now I would like to jump to Slide 9. Slide 9 shows
11 the WiMAX, yes, WiMAX grounds, I'm sorry.

12 We recognize that there's a lot of grounds in the case and I'm hoping to
13 simplify things for the Board over the next few slides. So there are three primary
14 references. First is IEEE 802.16 and that's commonly referred to as WiMAX and
15 so I'll refer to it as WiMAX today.

16 We also have a Waxman reference as a prime reference and DOCSIS 2.0
17 and I'll discuss those grounds in a minute, but this slide focuses on the WiMAX
18 grounds. And Entropic's arguments regarding those. These three WiMAX
19 grounds cover all claims.

20 Entropic argues only for the independent claims for the first WiMAX
21 ground, that's Ground A. And that's why we circled Claims 1 and 9. Their first
22 argument is that WiMAX's ranging response does not meet its construction for
23 probe or physical layer probe.

24 Those arguments hinge on their own narrow constructions and I'll address
25 that. Their second argument is that the ranging response is basic CID is not

1 specified by the ranging request. And that's just an argument for Limitation 1A. It
2 doesn't apply to Claim 9.

3 With respect to the Ground B or second ground here from the WiMAX, they
4 have only one argument for Dependent Claim 11 and it's -- look they also argue for
5 Claim 19 which is for the same feature.

6 Their POR attacked our argument. They said that we argued inherency, but we
7 never argued inherency. When we pointed that out, their surreply only argued that
8 we didn't have enough for obviousness. And I plan to address that further as well.
9 And they have no further arguments for the Ground C which is where we bring in
10 Won for a few dependent claims.

11 So now I would like to turn to Slide 10. These are our Waxman grounds. These
12 grounds also cover all claims. Entropic argues only for the independent claims and
13 dependent claims 11 and 19 again. Entropic's arguments for the independent
14 claims are one, that Waxman's probe response does not meet its construction for
15 probe or physical layer probe. But Waxman uses the same terminology and it's in
16 the same field of art. So this shows that there's an issue with their claim
17 construction. And I'll get to that.

18 Number 2, Waxman's probe, they argue that Waxman's probe request does
19 not specify the content payload of the probe response. That's part of that
20 Limitation 1A and I'll address that.

21 Number 3, they argue that Waxman's probe request does not specify a
22 second node. And I'll address that further. Essentially their argument is that it was
23 not actually disclosed, but they don't argue that it wasn't actually obvious.

24 With respect to dependent Claims 11 and 19, they attack, their POR attacked
25 Waxman alone. And when we pointed that out, they have no further response in

1 their surreply. And they also haven't made any arguments against Grounds F, H,
2 and I. So those stand unrebutted.

3 If we could go to now Slide 11, Slide 11 begins our DOCSIS ranging
4 ground. So we use the DOCSIS 2.0 in two different ways. There's two different
5 procedures that we read other claims. The DOCSIS ranging procedure and the
6 DOCSIS testing procedure.

7 This slide just deals with the DOCSIS ranging procedure grounds. The first
8 grounds, Ground J there, Entropic's only argument for the Ground J is that the
9 ranging request does not meet its construction for probe or physical layer probe.

10 They don't argue the other limitations like in Limitation 1A. And for Gound
11 L, they only argue against dependent Claims 10 and 11 and their arguments attack
12 just the DOCSIS 2.0 alone. They said that DOCSIS 2 would not be obvious to use
13 OFDMA with DOCSIS 2.0, but they ignored that we combined that with
14 Zuckerman.

15 So with that, I'd like to turn now to Slide 12 and discuss the final, the last bit
16 of grounds, the DOCSIS testing grounds. So with respect to these DOCSIS testing
17 grounds also they only, they cover all the independent claims and many of the
18 dependent claims.

19 With the DOCSIS testing grounds, we additionally rely on ISO8802 for
20 teaching that information and the test request is sent back in the test response. So
21 DOCSIS 2.0 expressly referenced ISO8802 for the test procedure.

22 So it expressly referenced using that for the test procedure and so that's why
23 we combined it with that and Entropic has not argued the obviousness of
24 combining them. But here's what Entropic did argue. For the independent claims,
25 Entropic argued Number 1, that the test response does not meet their construction
26 for probe or physical layer probe.

1 But then in their surreply they actually only seem to maintain the argument
2 against the physical layer of the probe. Number 2, the only other issue they raise
3 was whether it meets the specified content payload limitation from Limitation 1A.

4 Then, in fact, Entropic argues, well actually they didn't even argue it. All
5 they did was point out that the Board's preliminary decision sided with them on
6 this issue and they didn't further argue it. After we pointed out the issue with the
7 preliminary determination, Entropic had no further response on this point.

8 With respect to dependent Claims 10 and 11, the arguments are the same as
9 they were for the DOCSIS ranging grounds. They just argue that it would not have
10 been obvious to use OFDMA with DOCSIS 2.0, but they're ignoring Zuckerman
11 and we pointed that out.

12 And, again, they were, they had no response in their surreply on that. So
13 with that, Your Honors, I would like to now move into the claim construction
14 discussion on Slide 14. So here's Slide 14 begins our claim construction
15 discussion.

16 We think, well since many of Entropic's arguments hinge on the construction
17 of the term probe, we think it's important to spend some time on this issue. We
18 think the Board should be aware of Entropic's inconsistent statements and how we
19 got to where we are today.

20 This slide shows the Charter court's construction to the term "probe" that
21 Entropic argued against during the Charter litigation. You can see that it has this
22 term referencing. We'll highlight it in yellow. And I'll now show you what they
23 said about this reference signal if we could turn to Slide 15.

24 Here on Slide 15 we see Entropic's inconsistent statements that directly
25 contradict what it told the Board in the POPR. These prior positions from the

1 Charter litigation are correct. As Entropic previously explained, the use of a
2 reference signal violates the rule against importing limitations into the claims.

3 And no POSITA would rely on the background discussion of the Patent to
4 limit the meaning of probe. Furthermore, looking at the red underlined part,
5 Entropic said it best when they admitted the specification describes how the
6 receiver determined probes may be used in a variety of applications and identify
7 several exemplary embodiments. So we agree with these positions.

8 These support us. And soon I'll show you why. I want to discuss Entropic's
9 changing positions in this proceeding on Slide 16. So turning to Slide 16, we see
10 at the top in related litigation between the parties, that's between Entropic and
11 Comcast, Entropic initially proposed to use the Charter court's construction for
12 probe.

13 But after the parties conferred, the parties agreed to use plain and ordinary
14 meaning and filed a joint claim construction statement confirming the agreement to
15 use plain and ordinary meaning for the term probe.

16 Accordingly, our Petition uses plain and ordinary meaning and we
17 maintained the position in the reply and we maintain the position today. In our
18 view, the Board does not need to construe the term because the parties agreed that
19 plain and ordinary meaning should apply and the construction is not needed to
20 resolve the dispute because the relied-upon probes fall within the various example
21 probes described in the patent.

22 While we've been consistent throughout, Entropic has not. In the POPR
23 Entropic pulled a 180 and argued for the Charter core construction again, having
24 that reference signal. Then since that didn't work --

25 JUDGE MOORE: Counsel --

26 MR. KRONENTHAL: Yes.

1 JUDGE MOORE: This is Judge Moore. I think you can't see me right now,
2 but I think if I speak, you will be able to see me. But I'm wondering exactly what
3 is the plain and ordinary meaning of the term?

4 MR. KRONENTHAL: Good question, Your Honor. So we have not put
5 forth a concise definition because there really would be no easy way to put forth a
6 concise definition because the term is not clearly defined in the Patent. It's defined
7 by way of examples.

8 So we list off a number of different examples so it would be, so any
9 construction I could offer you would just be open-ended. So our position is that it
10 wouldn't help to resolve the dispute by trying to create a laundry list of what could
11 be in the probe and that we should just talk about how our references teach
12 messages or signals that fall within those examples of the probe.

13 JUDGE JURGOVAN: Counsel, are there any examples in the '690 Patent
14 where the probe is not used to characterize the channel?

15 MR. KRONENTHAL: Yes, Your Honor. So I think for one example might
16 be discovering lost nodes. Another example is when it would replicate a problem.
17 So I think if we could turn to Slide 18 real quick, I have a couple of those examples
18 in the top.

19 So this is what I'm talking about when I said that. So on the right-hand side
20 at the top right here we have a snippet from the Patent that lists out some of the
21 different examples and so and then on the left-hand side we enumerated a few of
22 those.

23 So like reaching in to discover nodes wouldn't necessarily require channel
24 assessment. Again, network diagnostics doesn't necessarily require assessing the
25 channel. You might be assessing a problem with something else in the network.

1 And so while channel assessment is certainly one of the examples, we don't
2 dispute that it's not the only example. And that's what, that's our problem with
3 their construction is that they want to limit it to that one example of channel
4 assessment and then argue even narrower than their claim constructions that our
5 signals and messages don't fit within that one narrow example.

6 Even though we dispute that as well because even if you take that example,
7 all of our messages are characterizing the channel. Then we're just -- basically
8 they're shifting the discussion from what is a probe to what does it mean to
9 characterize a channel?

10 And we don't think that's helpful. And so that's why we're, that's why we
11 don't believe the Board should adopt that construction. It just opens the door to
12 more issues to talk about. So, Your Honors, I would like to then actually if I could
13 just drop back to Slide 17.

14 Because I just want to point out Entropic actually has two POR
15 constructions. They're not even consistent in their own POR. The first one says a
16 signal or message that is used to characterize or assess the communications
17 channel, the second one doesn't have that is used to language. It just says that
18 characterizes the channel.

19 So that creates a problem right there. Furthermore, again, this slide also
20 points out what I just told you is that it's not, it's just one example of many
21 examples in the Patent. And so on the snippet here in the middle on the left-hand
22 side, you can see from the Patent, the Patent said some embodiments relate to
23 channel assessment probes.

24 So there it uses channel assessment before the word probe. That's not in the
25 claims. The claims simply say probes. On the right-hand side we see some of

1 those examples that I already mentioned about, and channel assessment is just one
2 of those examples there.

3 Lastly, the bullet point at the bottom here says Entropic only alleged support
4 for its narrow construction is a few unrelated patents. They don't use the
5 specification to support their construction, they use unrelated patents.

6 So their evidence is far outweighed by the intrinsic evidence here and our,
7 Petitioner's, extrinsic evidence that also put in other patents that show that probes
8 are not limited to channel assessment. So, Your Honors, now I will jump back to
9 Slide 18 actually. I don't think I pointed this out before, but I want to bring to the
10 Board's attention the Institution Decision.

11 In the Institution Decision, this Board wrote, we question whether all of the
12 different types of probes mentioned and claimed in the '690 Patent would require
13 comparison with a reference signal. So I realize that was responding to the
14 reference signal argument in the POPR, but that still applies here to Patent Owner's
15 construction that now is just limited to that one example.

16 So there's more than that one example as the Board recognized in the
17 Institution Decision. So with that, I would like to then jump to Slide 19 or turn to
18 Slide 19. So Slide 19 addresses another reason why the claim probe should be
19 interpreted to include the ranging messages that we rely on.

20 Entropic's own infringement contentions assert a probe that is used for
21 ranging. Now on the top left of this slide, we see the P-MAP message. This is
22 what Entropic maps to the probe request message. That P-MAP message includes
23 a parameter in the probe information elements. The parameter is shown in the top
24 right here.

1 That's the subcarrier skipping parameter. That subcarrier skipping
2 parameter, when set to zero, the probe could be used for ranging purposes. So, I'm
3 sorry, so if it's zero equals probe used for ranging purposes.

4 So the probe they're asserting, it can be used for ranging purposes, but in this
5 proceeding they argue that the ranging messages can't be there for claimed probe,
6 so they're inconsistent. And furthermore, at the bottom, is another Entropic patent
7 application, this is submitted as Exhibit 1045, and shows that probes can be used in
8 ranging methods.

9 So, Your Honors, now I would like to turn to Slide 20. Slide 20 shows
10 another big reason that we should not adopt Petitioner's, I'm sorry, Patent Owner's
11 constructions because even their own expert, Mr. Holobinko did not.

12 Mr. Holobinko's construction is shown here at the bottom of the slide. His
13 construction uses some extra words, “having a form used to characterize
14 communication channel.” When asked at his deposition about those words, he
15 objected to removing them and agreed they were very important.

16 So he would not adopt Patent Owner's constructions. And this is also
17 important because his opinions are based on his construction so, in effect, Entropic
18 has no expert support for much of its opinions. Much of its arguments are just
19 attorney arguments.

20 Turning to Slide 21, Slide 21 addresses the “physical layer probe”
21 construction. So it's, we have a similar issue. They're trying to limit it to channel
22 assessment so for the same reasons you shouldn't limit probe to channel
23 assessment, you shouldn't limit physical layer probe to channel assessment.

24 The term physical layer is not even in the specification. The physical layer
25 probe should just be treated as a probe giving “probe” its ordinary meaning and
26 relating to the physical layer which all of the messages we relied on relate to the

1 physical layer. We never asserted any type of probe message that goes between
2 upper layers of the OSI model.

3 So all the messages that we're talking about today are physical layer probes.
4 So it doesn't have really any, this extra word physical layer probe doesn't really
5 have any impact on the proceeding because everything we're talking about is a
6 physical layer probe.

7 If we could now turn to Slide 23 to discuss our first WiMAX grounds. So
8 again, I'm on Slide 23. And we're discussing WiMAX. So Slide 23 shows a
9 drawing from our Petition with annotations to show the ranging request that's the
10 green arrow going from the subscriber station blue to the base station red.

11 And in response, a ranging response message is sent back from the base
12 station to the same subscriber station. As noted on these slides, the messages
13 belong to the ranging process which is for maintaining the quality of the RF
14 communication link.

15 That's the PHY layer, that's the physical layer. The RF communication link
16 is the physical layer. This is for maintaining the physical layer. So the ranging
17 request is the claimed probe request and the ranging response is the claimed probe.

18 The next few slides explain our mapping, but I want to jump ahead to Slide
19 27 and explain why WiMAX's ranging response even meets Entropic's
20 construction. So I'm on Slide 27 now. Slide 27 shows WiMAX's ranging response
21 is the probe even under their construction that requires characterization of the
22 channel.

23 First, the ranging response provides timing and power corrections as a result
24 of assessing the channel. If there is signal delay or power attenuation in the
25 channel, timing and power corrections are provided in the ranging response.

1 Even Mr. Holobinko stated that the ranging response includes parameters
2 about the channel. WiMAX's ranging response further has a ranging status
3 parameter that characterizes the channel. If the assessment when the assessment is
4 shown in the pink oval there, so this is what the base station does.

5 The base stations sees whether the ranging request is good enough. And if
6 not, so it's assessing the channel, and if not, then it will continue the ranging
7 process and the ranging status will be set accordingly.

8 If it is good enough, then the ranging status doesn't need to, could indicate as
9 much and they don't need to continue the ranging process because you wouldn't
10 need the timing corrections. And so also since this, since what we're talking about
11 here these acceptable limits are timing and power limits, those are physical
12 parameters.

13 It's in the ranging responses also a physical layer probe even under
14 Entropic's construction for that term. So now I want to jump to Slide 34 and
15 discuss the, this is another point that Entropic brings up so Slide 34 shows how
16 WiMAX maps to the yellow highlighted part of Limitation 1A.

17 So the claim is at the top and the yellow-highlighted part of that claim is
18 what we're discussing now. It says, wherein, the first plurality of parameters at
19 least specify content payload of the probe. So this limitation, again, is the only
20 other point that Entropic argues for independent Claim 1. It also applies to
21 independent Claim 17.

22 There's a little bit different language there, but it still applies. It just does
23 not apply to independent Claim 9. That doesn't have this feature. As shown on the
24 slide, the ranging request has a generic MAC header that includes the CID
25 parameter which is a connection identifier that the subscriber station and base
26 station share to communicate with each other.

1 So on the next slide I'll show you how this CID is used for the payload of the
2 ranging response. So if we could turn to Slide 35. Slide 35 continues with the
3 same showing of how the WiMAX meets that same yellow highlighted part of the
4 Claim 1A.

5 The CID parameter from the header of the ranging request that I just showed
6 you on the previous slide is used for the basic CID and the TOV encoded
7 information of the ranging response. On the left of this slide, we see the format for
8 the ranging response.

9 It includes the TOV information that's highlighted in blue. That's what
10 we've always pointed to for the payload of the response. Entropic's POPR and
11 POR argue that the CID from the ranging request was not in the payload of the
12 ranging response, but they were pointing to the showing of the CID in the header
13 from the previous slide not to what's in the TOV information. This slide clearly
14 shows that the basic CID is in the TOV information.

15 JUDGE JURGOVAN: And so counsel, you're saying that the CID in the
16 request is specifying the CID in the response. The CID is specifying itself?

17 MR. KRONENTHAL: Correct, Your Honor. It's the, the request is
18 providing that CID and that CID is used for as part of the payload of the response.

19 JUDGE JURGOVAN: So CID is specifying CID basically?

20 MR. KRONENTHAL: The same value, yes. I mean, the value doesn't
21 necessarily need to change. One of Entropic's arguments is that because it could
22 change, that its therefore doesn't meet the claim, but that's reading too much into
23 the word specifying. That doesn't, that's not supported by the claim.

24 JUDGE JURGOVAN: Okay and I know you'll get to it, but if you have any
25 specific constructions for probe, specify, and form, let us know please.

1 MR. KRONENTHAL: Okay. Yes, Your Honor. So we don't, we didn't put
2 forth any specific constructions for those terms. Again, with probe, it's, we could
3 never offer you an accurate, concise definition for that because of all the different
4 examples.

5 With respect to specifying, I mean that word would be like identify or
6 define. Those are the typical uses. We didn't put forth any specific construction
7 for that, but the way it's used in the claim, that's all that's required. So --

8 JUDGE JURGOVAN: Are there any probes that do not go across the
9 physical layer?

10 MR. KRONENTHAL: Are there any probe that don't go -- all probes would
11 go across the physical layer, but the issue is not whether it just goes across the, it's
12 whether are we talking about does it relate to the physical layer?

13 You might have like, there could be like probe messages between
14 application layers, but that would be outside the scope of anything here. We never
15 relied on any weird like probe message between an application layer or anything.

16 So all the probes messages that we're talking about are going from just are
17 about assessing the channel effectively.

18 JUDGE JURGOVAN: So the probe, okay, that answered my question,
19 thank you.

20 MR. KRONENTHAL: Yes. They're trying, the probe is always trying to be
21 used to set up the communication for another, maybe put it a little differently. And
22 that's every message we relied on is doing the same thing. I mean, we're not,
23 again, relying on some upper-level probe-type situation.

24 Which could be possible, but is just outside the scope of all discussion. So
25 let's see. Now I want to jump back actually to Slide 30. Because I want to address
26 Entropic's argument in the surreply on this. So back on Slide 30, so Slide 30

1 shows that Entropic admits that the base station may use the CID from the ranging
2 request for the basic CID in the ranging response.

3 So the issues have narrowed over the course of the trial. The parties agree
4 on several points. Number one, the parties agree that the ranging request has a
5 CID parameter in its header. Number two, the parties agree that the TLV
6 information in the ranging response is the pay load. Number three, the parties
7 agree that the TLV information includes the basic CID.

8 And number four, the parties agree that the basic CID may use the CID from
9 the ranging request. That's on the slide. The issue Entropic raises now is that the
10 basic CID doesn't always have to be the same as the CID. But that doesn't matter.

11 We aren't, we are relying on it being the same. Entropic seems to argue that
12 the word specify only means like a signing, but that's not true. Specify typically
13 means, as I mentioned, identify or define and in the context of this claim, could
14 just mean includes or indicates.

15 Therefore, in our WiMAX ground when the base station uses the CID from
16 the request for the basic CID in the response, this meets the claim. The CID in the
17 request specifies the basic CID in the payload of the response.

18 It doesn't matter who first assigned the CID, or that the base station can
19 change it, the claim limit, the claim language in Limitation 1A using specified does
20 not preclude the base station from being able to change the CID.

21 If Entropic wanted a narrower reading of specified, they could have
22 amended their claim. They chose not to. So now I would like to talk more about
23 the specified term on the next slide actually, Slide 31. So this slide addresses how
24 Entropic's litigation position and Mr. Holobinko's read of the specified content
25 payload limitation is broader and inconsistent with the arguments in this IPR.

1 It includes a blurb from Holobinko's deposition, but I actually want to pull
2 up Exhibit 1052. This is the argument that Mr. Galluzzo, Entropic's counsel, made
3 to the Court about the content payload in the litigation, the related litigation. I
4 would again, this is 1052.

5 And I'll read parts of this for you. We cited the whole thing from 62, Page
6 62, line 2 to Page 71, line 18 in our reply at Page 13, but I'll read a few parts here.
7 At Page 64, and this is on the screen, line 2, he poses the question "So what can be
8 the content of the content payload of a probe?"

9 He then provides the answer, "It can be something as simple as a signal."
10 On Page 65, line 1, he eventually described the signal can be "just a basic sine
11 wave." He goes on to say "think of it like a foghorn or a police siren or, you know,
12 perhaps the starter pistol that's going to be going off in the Olympics next week."

13 It doesn't necessarily convey any information, you know, it doesn't have an
14 encoded message in it. But it signals something. The sine wave here doesn't
15 encode any information, but it is a signal." On Page 67, line 6 he says, there's
16 "portions of the specification that also talk about how the content payload of the
17 probe doesn't have to carry any data."

18 On Page 68, line 7, he reads a sentence of the patent and then says, "to go
19 back to my foghorn example, this is blare the foghorn as loud as you possibly can
20 for as long as you possibly can so some lost ship way down the river can hear it.

21 That foghorn doesn't necessarily carry information, you're sending the
22 volume of the signal so to speak at such a high volume that you're going to make
23 sure you get to lost nodes that haven't been found."

24 If this foghorn with no information in the payload can be a probe then all the
25 messages we rely on for the probe request and probe meet this specified content

1 payload limitation. Simply put, Entropic's litigation position can't be squared with
2 what they are arguing in this IPR before the Board.

3 If you take their reading of the claim in a litigation, the ranging request
4 clearly specifies the content payload of the ranging response because the entire
5 ranging response message is being generated according to the ranging request.

6 Entropic should not be allowed to argue for different meanings in this IPR
7 and the District Court. Now I want to make a big jump to Slide 41 and discuss
8 Entropic's remaining arguments against the WiMAX ground with respect to Claim
9 11 so I'm on Slide 41 now.

10 Slide 41 shows how WiMAX teaches Claim 11. Claim 11 and Claim 19 are
11 the only dependent claims that Entropic argues for. They're for the same feature.
12 This slide shows how WiMAX teaches limitation 11A.

13 We've previously discussed how the subscriber station blue performs
14 ranging with the red base station. On this slide, we show another base station, the
15 purple base station which is the claim third node.

16 The slide shows that the subscriber station would have communicated with
17 multiple base stations and would have performed ranging with both because
18 ranging is necessary for maintaining all RF links. The purple base station would
19 have received a second ranging request and sent back a second ranging response.

20 They only disputed this arrangement with the one subscriber station and two
21 base stations in their surreply. They did not argue against that arrangement in the
22 POR and therefore those arguments should be waived, but more importantly their
23 arguments fail because we argued that the arrangement would have been obvious.

24 Not that it's disclosed in WiMAX. So now turning to Slide 43, Slide 43
25 shows Limitation 11C which is the only limitation Entropic's POR argued for. In
26 the Petition and again in the reply we explained that a POSITA would have been

1 motivated to configure the subscriber station to perform ranging simultaneously
2 with multiple base stations and that there would have been situations where the
3 ranging responses from the base stations are sent simultaneously.

4 And I want to address Entropic's arguments on this on the next slide, Slide
5 44. So I'm on Slide 44. Slide 44 shows that in the POR Entropic argued that we
6 didn't show inherency. But we never asserted inherency, just obviousness.

7 Entropic and Mr. Holobinko have admitted that simultaneous transmission
8 would have happened by chance or sometimes and that is enough for obviousness
9 particularly given the claim here. As shown on the bottom right, there's nothing in
10 Claim 11 that coordinates or controls the probes to be transmitted simultaneously.

11 The claim only covers the result and the result only needs to occur once. If
12 Entropic wanted a narrower construction, they could have amended the claims.
13 Turning to Slide 47, I'd like to move to the Waxman grounds.

14 So Slide 47 shows how one of Waxman's stations blue, sends a probe
15 request green to an access point, red, and receives a probe response, the purple
16 message in response to the request. Waxman's probe request is the claimed probe
17 request and Waxman's probe response is the claimed probe.

18 Waxman's probe request includes a request for the AP to use a specific
19 transmission scheme. And the probe response is used to approve the request.
20 Incredibly, even though Waxman uses the same term probe in the same field of art,
21 Entropic argues that the Waxman's probe doesn't meet the claim probe.

22 This highlights the problem with their construction. And the way they're
23 applying it. If it captured the plain and ordinary meaning and was applied
24 correctly then Waxman's probe response would have to be the probe because
25 there's no argument that Waxman redefined the probe. It's talking about the same
26 kind of probe.

1 Entropic argues that Waxman's probe response is a simple
2 acknowledgement. But that doesn't meet its definition and that they argue because
3 it's a simple acknowledgement it doesn't meet its definition of probe. But again,
4 Waxman does not limit the probe response to a simple acknowledgement.

5 Waxman says the probe response may include the approval or
6 acknowledgement. And even if that's all that was included, it would still meet the
7 claim because the claims don't require anything more. And it would mean
8 Entropic's construction by approving the requested transmission scheme, the probe
9 request characterizes the channel.

10 So I'd like to jump now to Slide 53. Slide 53 shows how Waxman discloses
11 the first plurality of parameters at least specified content payload of the probe.
12 This is in Limitation 1A, that yellow highlighted part at the top of this slide.

13 Entropic argues that Waxman fails to teach this part of the claim because
14 they say Waxman's probe response is only a simple acknowledgement. But even if
15 it is as simple as they say, the acknowledgement is specified by the request for the
16 acknowledgment.

17 In other words, Waxman's probe request is saying send me an
18 acknowledgement if you will use my requested transmission scheme and
19 Waxman's probe is sending an acknowledgement in the payload of the probe
20 response and this meets the claim.

21 Entropic admits the acknowledgement would be in the payload, but it still
22 maintains that the acknowledgement doesn't meet the specified aspect. Of course,
23 their arguments can't be squared with their arguments in the litigation that the
24 probe can be merely a foghorn. I would now like to turn to Slide 54.

25 This shows our backup position for that same part of Limitation 1A. Again,
26 it's highlighted in yellow at the top. As mentioned, Waxman's probe is not simply

1 an acknowledgement, Waxman explains that the stations may comply with IEEE
2 802.11 and in that standard which is submitted as Exhibit 1012, the probe request
3 includes an SSID.

4 That's a service set identifier and the probe response includes the SSID in its
5 frame body as well. So in that example of Waxman, the probe request specifies the
6 SSID and the payload of the probe response which meets this part of Limitation
7 1A.

8 Now I'd like to turn to Slide 55. Slide 55 addresses the other last part of
9 Limitation 1A. Again, the yellow highlighted part at the top of the slide so
10 wherein the first plurality of parameters at least specify a second node.

11 Waxman describes that the probe response is transmitted from the AP "to the
12 station" that sent the probe request. So this means that the probe request specifies
13 the station that the AP should respond to. Entropic argues that this is not clearly
14 stated in Waxman, but in the Charter litigation when the support for their claim
15 limitation was challenged, Entropic argued that even though the '690 Patent
16 doesn't expressly describe the parameter, that it was disclosed and supported.

17 Basically, Entropic's litigation position that this feature has support in the
18 '690 Patent, shows that Waxman also has this feature. But in any event, if this
19 feature is not considered disclosed, it is at least obvious in view of Waxman alone.

20 Notably, Entropic's surreply does not dispute that Waxman actually teaches
21 this feature. If we turn now to Slide 60, Slide 60 is where we begin to show how
22 Waxman teaches Claim 11. Waxman's Figure 1 on the bottom right shows only
23 one AP, but the text on the bottom left shows that it discloses multiple APs.

24 So in the case where there are two APs near a station, the station would have
25 sent its probe request to both APs and received probe responses from both APs.

1 Entropic argued that the probe responses would not be simultaneously sent using
2 OFDMA.

3 And we address that argument at Slide 63. So I'll turn there. So here our
4 Slide 63, addresses how Entropic impermissibly attacks Waxman alone even
5 though Petitioner relied on Zuckerman with Waxman. Zuckerman discusses the
6 well-known advantages of using OFDMA.

7 In the combination of Waxman and Zuckerman, OFDMA would have been
8 used to simultaneously transmit probe responses. Entropic's argument against this
9 combination is based on Waxman having a paragraph, that's paragraph 38 on the
10 slide, that disclosed an optional backoff mechanism which would avoid
11 simultaneous transmission, but that argument inappropriately attacks Waxman
12 alone.

13 And it ignores the combination of using OFDMA for the benefit of
14 simultaneously transmitting the probe responses. So rather than cut against the
15 combination of Waxman and Zuckerman, Waxman's paragraph 38 actually
16 provides evidence that multiple probe responses would have been transmitted
17 simultaneously. So now I'd like to turn to Slide 65 and begin my discussion on the
18 DOCSIS 2.0 ranging.

19 So DOCSIS 2.0 teaches a UCD message that's the green arrow, going from
20 the CMTS red to a cable modem number one, blue, and in response a ranging
21 request the purple message is sent back. As shown on the slide, the UCD message
22 maps to the probe request and the ranging request maps to the probe.

23 I realize at first it might seem odd to map the ranging request to the probe
24 instead of the probe request because of the word request, but the names are just
25 semantics and the Board should look at what the messages are doing.

1 Here it's understood that the ranging request is probing the CMTS to
2 diagnosis the uplink channel and send timing and power adjustments. So the
3 ranging request is a probe in the plain and ordinary meaning of the term.

4 And it's a physical layer probe because it's dealing with diagnosing the
5 timing of the channel not some upper layer issue. So turning to Slide 69, this slide
6 notes that Entropic's only arguments against the DOCSIS ranging ground is about
7 whether the ranging request is a probe.

8 They don't dispute the other elements of Limitation 1A that I talked about
9 before. So they don't dispute that the downstream channel ID and the UCD
10 message meets that wherein the first plurality of parameters that we specify content
11 payroll to the probe.

12 They also didn't dispute that the UCD message includes a source address
13 that meets the other part of that Limitation 1A. And on the third bullet point, they
14 didn't dispute that the UCD messages modulation rate and frequency parameters
15 are used to dictate the ranging request form. That's the key feature.

16 So now I would like to discuss our other use of the DOCSIS 2.0 reference
17 and turn to Slide 71. So Slide 71 begins the discussion on the DOCSIS 2.0 testing
18 grounds. DOCSIS 2.0's testing procedure is for testing the timing and power of the
19 channel between the CMTS and the cable modem, the CM No. 1 here.

20 Referring to the figure in the top right, the test requests, the green arrow, it
21 said from the CMTS to the Cable Modem No. 1, and in response a test response,
22 the purple arrow is sent back. The test request is the probe request. The test
23 response is the probe.

24 Referring to the snippet from DOCSIS 2.0 standard at the bottom, the test
25 request has a mode parameter. The mode parameter tells the cable modem what
26 kind of test response signal to send back. If the mode parameter is 1, the test

1 response includes an upstream signal with a payload of alternating 1s and negative
2 1s.

3 If the mode parameter is 2, the test response signal is all 1s. And this would
4 meet Entropic's interpretation of specified in Limitation 1A. But we also combine
5 the test procedure with the ISO 8802-2 which teaches that the test response has a
6 payload with the exact same information from the test requests.

7 That's all we relied on ISO 8802-2 for. It's a backup position for Limitation
8 1A. Now turning to Slide 73, Slide 73 flags a major flaw in Entropic and its
9 expert's attempt to distinguish the claims from the DOCSIS 2.0 test procedure.

10 They think that the test response cannot be approved because it simply uses
11 alternating 1s and negative 1s. And this is shown at the bottom of the slide which
12 shows a snippet from paragraph 107 of Mr. Holobinko's declaration.

13 But this conflicts with the Patent itself. It says the probe could be "a square
14 wave for other easily analyzed signal." That part of the patent is shown in the
15 middle of the slide here. At his deposition, Mr. Holobinko acknowledged that the
16 test response is a square wave.

17 And therefore, admitted that the test response is one of the probes in the
18 Patent. Nothing in the claims excludes this example of a probe in the specification.
19 And Entropic hasn't argued anything does. So the test response absolutely meets
20 the claimed probe.

21 Moreover, it's a physical layer probe because it diagnoses timing and power
22 problems at the physical layer. Entropic tries to confuse the Board by pointing to
23 the LLC layer disclosures in ISO 8802. But again, we relied only on that for the
24 backup position for the specified content payload limitation in Limitation 1A.

25 The test response from DOCSIS 2.0 alone that is the signal with the negative
26 ones and ones or the all ones, that is a physical layer of probe. Now I'd like to

1 jump ahead to Slide 81. Slide 81 addresses Entropic's argument for Claim 11
2 against our DOCSIS grounds.

3 Entropic makes the same argument against both DOCSIS ranging ground
4 and the DOCSIS testing ground. First, Entropic ignores that we rely on
5 Zuckerman for both grounds. Entropic's sole argument is that it would not have
6 been obvious to use OFDMA in DOCSIS 2.0 because OFDMA was not used in the
7 DOCSIS standards until DOCSIS 3.1 came out.

8 But that doesn't make combining DOCSIS 2.0 with Zuckerman to use
9 OFDMA non-obvious. We cited a case to support this and that case is in the
10 briefing and on the slide as well. Zuckerman specifically teaches using OFDMA
11 in a DOCSIS system.

12 And Zuckerman was filed in 2006 when DOCSIS 2.0 was the standard. As
13 Mr. Bertonis explained, the delay in incorporating OFDMA into the DOCSIS
14 standard can just be attributed to increased cost of implementing OFDMA and
15 general delays with the standardization process.

16 And unless, Your Honors, unless there's any questions, I think I'll stop here
17 and reserve the rest of my time for the rebuttal.

18 JUDGE JURGOVAN: Okay, thank you, Counsel. Let's hear from Patent
19 Owner now.

20 (Pause.)

21 MR. GALLUZZO: Good morning, Your Honors. Vince Galluzzo from K&L
22 Gates on behalf of Patent Owner, Entropic. I have a planned presentation, but I'd
23 like to start first with responding to Petitioner's arguments in some way and some
24 of the questions that Your Honor has asked, that I don't think I got a satisfactory
25 answer on. Let's start first with claim construction. Judge Jurgovan, you asked a

1 nice question, maybe it was you, Judge Moore, about is there a construction of
2 plain and ordinary meaning of probe? What do you, what do you mean?

3 And Petitioner's counsel attempted to avoid answering it because they
4 haven't provided a plain and ordinary meaning of the construction. I think that's,
5 you know, something that's of note here where Petitioner has the burden to show
6 that the challenged, the grounds of the challenged claims invalidate the claims.

7 Petitioner has the burden to show how the prior art reads on the claims and
8 therefore interpret the claims per the construction that they believe is the correct
9 one. And while they say plain and ordinary meaning is the right construction, I
10 haven't heard what that is supposed to mean.

11 So if Petitioner cannot provide a clear and concise meaning of what the plain
12 and ordinary meaning or construction of probe should be then we'll submit that
13 there's no way they can potentially or possibly meet their burden on any of their
14 grounds. All of which --

15 JUDGE LANEY: Counsel, what's your specific concise construction of
16 probe and how does that juxtapose or bring into that answer how you believe it is
17 or is not consistent with previous positions you take?

18 MR. GALLUZZO: Yes, thank you, Judge Laney. So to be very clear, the
19 construction as proposed by Patent Owner is a signal or message used to
20 characterize and then in parentheses, or assess. We believe the words have similar
21 meaning. The communications channel, in parentheses, or path. Again, similar
22 meaning between the two nodes.

23 The reason we selected that specific construction, one is it's faithful to the
24 plain and ordinary meaning of the term probe as understood in the industry, but
25 two, it's the common ground on which both experts in this case agree.

1 We asked Mr. Holobinko, Petitioner -- I'm sorry, Patent Owner's expert here
2 what he believed a probe was and he gave us an answer. We asked Mr. Bertonis,
3 Petitioner's expert here, what he believed a probe was, what he used in his analysis
4 in the case and he gave us an answer.

5 And there were some minor differences between the two, but insignificant to
6 the challenges here. I'll get to that in a minute, but both experts agree and if we
7 look at Slide 10, Mr. Fuller, we might see some of that here.

8 So if we look at Slide 10 of our presentation, we've juxtaposed the
9 Holobinko declaration on the left with his proposed construction or understanding
10 of probe with my deposition of Mr. Bertonis on the right. And they both agree that
11 a probe would be a signal used to assess the communications path.

12 Mr. Bertonis and Mr. Holobinko also agree that not all messages are probes
13 so we have to give some meaning to them. Now, Judge Laney, to your specific
14 question about whether that's consistent or inconsistent with past positions taken,
15 what I'll say is that the Patent Owner's preliminary response stage, we propose the
16 use of the Charter construction.

17 There's, you know, some maybe procedural reasons why we felt like we
18 couldn't escape from that construction having been a party to that litigation before,
19 but for purposes of post-Institution Decision, what the position is here as opposed
20 to any positions that are taken before Institution Decision which essentially are
21 wiped clean as far as I understand it, the position is very clear.

22 Probe should mean a signal or message used to characterize or assess the
23 communications channel or path between the two nodes.

24 JUDGE JURGOVAN: Does the '690 Patent describe probes that are not
25 used for channel characterization?

1 MR. GALLUZZO: We don't believe so, Your Honor. And the reason is
2 because of the testimony we see here on Slide 10 is if you look, for example, the
3 Bertonis deposition, this is Exhibit 2002 on the top right, I asked Mr. Bertonis very
4 generally, you analyzed the claims in this case. You analyzed the prior art.

5 What meaning of probe did you use in your analysis of the claims in the
6 prior art? And he said, a signal used to assess the communications path. We also
7 ask Mr. Holobinko the same and he said, a kind of signal or message having a form
8 used to characterize the communications channel between two nodes.

9 And if you look at the examples in the specification of the '690 Patent.
10 There are a whole host of them all of which relate back to characterizing or
11 assessing the communications channel. Now I know that Petitioner's counsel said
12 today that that's not true. That there are some examples that don't relate to channel
13 characterization.

14 I don't know if I heard, I might not have written it down which ones those
15 might have been, but to the extent there's a belief in Petitioner that there are some,
16 that would be contradicted by the expert testimony from both experts here.

17 I think even more specifically to the point though, for the DOCSIS grounds,
18 for the WiMAX grounds, what Petitioner characterizes as probes is ranging and
19 there is no dispute at least I hope there's no dispute that the '690 Patent does not
20 list as one of its probes ranging. Or said without so many negative.

21 JUDGE LANEY: So --

22 MR. GALLUZZO: Yes, go ahead.

23 JUDGE LANEY: As far as the probing in the specification, can you tell us
24 how you would describe the differences of the probing of those examples? And
25 you've already identified I think you talked about the fact that all of them are
26 consistent with your proposed construction.

1 I just, if you could, could you provide your understanding of the ways in
2 which they're different just to highlight, I don't mean to be exhaustive, but just
3 explain how you think there are some differences between the probing and why
4 those differences are not material or significant or why they don't undermine your
5 proposed construction.

6 MR. GALLUZZO: Sure. And Your Honors, I don't have a demonstrative
7 slide on this, but if you still have Petitioner's slides, their Slide 17 excerpts some of
8 the description from the intrinsic record that I think we can use as our guide here.
9 So if Your --

10 JUDGE LANEY: Well so -- let me just get this up.

11 MR. GALLUZZO: Sure thing.

12 JUDGE LANEY: All right. Got it.

13 MR. GALLUZZO: All right so, Your Honors, if we look at the excerpts
14 and, again, this is Petitioner's Slide 17, that are highlighted, I don't know, maybe a
15 little less than half way down the or a little more than half way down the slide, we
16 see on the left some embodiments relate to channel assessment probes.

17 I hope that there is no dispute here that's consistent with our proposed
18 construction. In the excerpt on the right, it says and we'll just start from the bottom
19 and go to the top, offsite network diagnosis. That's diagnosis of the network and
20 the channels therein.

21 The next one up is OFDMA subchannel assessment. Up again,
22 characterization of the communication channel between two nodes. Further up is
23 the use to reach or discover hidden nodes. Now there's no expert testimony in this
24 case as far as I'm aware about how that would or would not relate to channel
25 assessment.

1 And I don't want to create new evidence here today, but to be specifically in
2 response to Judge Laney's question, I believe that is still reflective or related to
3 channel assessment because those nodes would be communicating over the
4 channel and one of the ways to reach or discover them is to determine if they were
5 channel impairments that are preventing you from reaching or discovering those
6 hidden nodes.

7 But what I will say, again, going back to my point about what I think. If
8 we're going to look specifically at the grounds here with and I'll focus on WiMAX
9 and DOCSIS 2.0 for a moment. The alleged probes are ranging messages. And
10 nowhere in the '690 Patent does it say an example of a probe is a ranging message.

11 And so to the extent that there is a plain and ordinary meaning to be had not
12 proposed by Petitioner that would just collect all of the examples and say it's one of
13 these things, Petitioner still can't meet its burden by showing that a ranging
14 message is a probe.

15 The reason is really a fundamental one about the difference between what
16 ranging messages do and what probes do. Ranging messages are essentially, at
17 least the one cited by Petitioner in its grounds, they just pass or negotiate
18 communication parameters between them.

19 So sending parameters back and forth is something that messages do.
20 Sending parameters alone does not make a message a probe. And one node giving
21 a parameter to another node to tell it I've characterized the channel and here's what
22 you should do. That is not probing. A probe is used to characterize the channel.

23 JUDGE JURGOVAN: Are signal power, and timing related to channel
24 assessment?

25 MR. GALLUZZO: So signal, power, and timing are related to the
26 transmitter and the receiver not necessarily channel assessment. Mr. Holobinko

1 testified to this -- I wrote this down earlier, if I remember off the top of my head,
2 here it is. Exhibit 1055 and the pages of the testimony are 171, line 24 to 172 line
3 20.

4 And there was some disagreement on terminology that cleared, got cleared
5 up during redirect thankfully and the testimony was essentially what he meant
6 when he talked about power and timing. So power is a transmitter sending a signal
7 or message at a certain let's call it amplitude so certain power level and timing is
8 which timing slot as defined by your communications protocol are you sending it.

9 So you're sending at the beginning of the slot, the end of the slot, somewhere
10 in the middle. And what was asked of Mr. Holobinko, is this power level of
11 characteristics of a channel and the answer to line 18, page 172 no.

12 Is timing a characteristic of the panel, he answered line 20, no. And the
13 reason or that, again, is the amplitude at which you send a signal or the power at
14 which you send a signal is a characteristic of the transmitter. It doesn't relate to or
15 doesn't, it's not characteristic of the channel.

16 If I have a perfectly normal channel, I can send it at essentially whatever
17 power level I want. It doesn't tell me what the channel characteristics are. The
18 same thing with timing. It might tell me where my timing in a protocol related to
19 other nodes on the network, but it doesn't tell me anything about attenuation or
20 impairments on the channel that are creating propagation delays for example.

21 So propagation delay, yes, that's a channel characteristic. But timing, that's
22 one of sending a message at a certain time slot which is about the transmitter,
23 maybe even the receiver, but not the channel.

24 JUDGE JURGOVAN: So what are aspects of channel assessment that
25 would, you would consider aspects of the channel assessment?

26 MR. GALLUZZO: Yes, so --

1 JUDGE JURGOVAN: Since, you know, I think you're saying that signal
2 power and timing are not related to channel assessment.

3 MR. GALLUZZO: They are not related to channel assessment or at least
4 they wouldn't be, they wouldn't be any probe that and I want to make sure I use the
5 language exactly right, would not be a message used to characterize or assess the
6 communications channel or path.

7 So examples, an example would be and one I think Mr. Kronenthal had
8 talked about from the specification, you send a simple signal across the channel
9 and as the recipient you assessed that signal to see what impairments might have
10 been.

11 So maybe you characterized or calculated SNR. Or you calculated MAR,
12 it's Modulation Air Rate, you calculated for the digital signal at bit error rate, BER,
13 to essentially determine in between these two nodes what's my channel look like?
14 Is it impaired?

15 Does it have significant issues in which I need to make changes in my
16 transmission or I need to change modulation rates or things like that? And so those
17 would be examples of channel characteristics. Mr. Holobinko's declaration also
18 lists some others. I don't have off the top of my head where that is, but when I sit
19 down, I'll take a look and get you a fuller answer, Judge Jurgovan.

20 JUDGE JURGOVAN: Thank you.

21 MR. GALLUZZO: Thank you. Since we're on claim construction, I'll stick
22 with that and move to physical layer probe. So Petitioner's position is that physical
23 layer probes are probes that relate to the physical layer.

24 To be honest, I don't know what that means. Because all probes just like all
25 messages, just like all signals go over the physical layer. In the OSI model, the
26 physical layer is the channel, the physical communications path between two

1 nodes. If you don't go over the physical layer, you just don't reach your
2 destination.

3 And so to say that a physical layer probe is a probe that relates to the
4 physical layer is not a distinguishing factor over the claimed probe by itself. We
5 know from the Comark case and from other Federal Circuit precedent that it's
6 presumed that different words in a claim have to have different meaning.

7 It's a claim differentiation principle that applies both to dependent claims
8 and also different independent claims like here. For the record, we cited the
9 Comark case, but I'll have the citation read in the record. It's 156 F.3d 1182
10 site 1187. That's out of the Federal Circuit from 1998.

11 So if all probes can travel on the physical layer, and a probe is a physical
12 layer probe if it travels on the physical layer, that would make all probes physical
13 layer probes. Which just can't be true. Can you turn to Slide 15 please, Mr.
14 Fuller?

15 If we look at our Slide 15, these are some examples from Mr. Bertonis's
16 deposition where and I think the one at the top right kind of highlights the problem
17 we have here. The question, are you saying the probe, as it's used in the patent at
18 the '690 Patent, always means physical layer probe? He answered, I would say
19 yes.

20 And that's because Mr. Bertonis, and I believe also Petitioner, just read
21 physical layer probe in every instance to mean probe. That would make
22 superfluous the words physical layer in the claim which is improper at least as a
23 presumption which hasn't been overcome here.

24 Now there was a question and I'm sorry I didn't write down which of Your
25 Honors asked it, about is there a construction of specify in the record? What
26 would the construction of specify content payload be?

1 There has been no argument in this case about a specific construction of the
2 word specify. I'll go back to what I said about probe. Petitioner has the burden
3 here. If Petitioner believes that specify needs to have some special meaning, it was
4 incumbent on Petitioner to propose that meaning.

5 And therefore, having not done so, it can't meet its burden. But what I will
6 say is we have argued about what it means to specify as a general matter, separate
7 and apart from claim construction. And so, for example, there's the CID, the
8 connection identifier and Judge Jurgovan, you asked a good question, so is the CID
9 specifying itself? That's basically what's going on.

10 And we would say that that's not within the scope of the claims. What
11 essentially -- let me give you an example of specifying. So for the DOCSIS 2.0
12 testing grounds, we don't challenge the specified content payload of that ground in
13 relation to the test signal. And I could tell you that the test signal there, the test
14 request basically gives a few options for its testimony.

15 There's Option 1 which is a certain kind of signal, Option 2 which is a
16 different kind of signal, and that's, you know, at least somewhat like what a
17 specifying would be where there are multiple options to be chosen and the request
18 tells the receiving node which option of those to choose.

19 It's not that there's some connection identifier that's set up by the base station
20 on initial access, or set up by the CMTS when the CM registers with the CMTS.
21 It's not like it's just some identifier that they have in common and happen to be
22 communicating back and forth.

23 It is the probe request says hey, I know you can give me this kind of thing in
24 response. I know you can give me other kinds of things in response. But I want
25 you to give me kind A instead of kind B, C and D. Or I want you to give me a
26 certain type of probe in response.

1 You know, I want you to give me a MER probe instead of a squaring. That
2 would be what specifying was in the scope of the claims. I do want to talk also
3 about the quotes from the Markman transcript from the Central District of
4 California. I think it was last year. And I want to be really clear that my argument
5 there because of the claim construction at issue was content payload was about
6 what the content payload could be not what specified means.

7 So the dispute between the parties there just as a quick background, was
8 does content payload have to be data? Does it have to be a symbol or does it have
9 to -- or can it just be a signal? Petitioner had taken the position in District Court
10 that it had to be data.

11 We said there was supporting the specification that it could be data. It could
12 be a symbol, or it could just be a signal. And so that's what the dispute was about,
13 that's the example of the foghorn that might not have any data modulated on it, but
14 it's a type of signal.

15 It doesn't mean that the probe is a foghorn. That was just an example of
16 what content payload could be and signals generally. And as Your Honors might
17 know, when you argue claim construction, in front of a District Court Judge, we try
18 to use analogies unless we can to help understand the specific context and the
19 issues present there.

20 So let's turn to our Slide 17 and I'll start talking about WiMAX. So I
21 touched on this briefly already. But ranging procedure in WiMAX just like in
22 DOCSIS that we'll talk about, is really no more than parameter negotiation
23 between two nodes.

24 There's nothing as far as we can tell from the disclosures or from Mr.
25 Bertoni's testimony that's using the ranging response message to characterize the
26 communications channel. But why do we know this other than just a lack of

1 disclosure? Well, we know this because according to WiMAX, and this is in its
2 Figure 61, which let's see if we have, yes, if we go to Slide 19 Mr. Fuller.

3 It's Figure 61 on the left. And we know that when the SS, the Subscriber
4 Station receives the ranging response, what it does is it just changes its parameters
5 to what the ranging response tells it to do. So we highlighted there this flow chart
6 where at the top the ranging response is received, you've checked continue,
7 success, or abort.

8 If it's success or continue, you know, you've successfully received the
9 message. Then what you do is you adjust your local parameters per the ranging
10 response. There's nothing in there that says use content of the ranging response to
11 do something to determine what the channel looks like between you and the base
12 station.

13 We also know that this is not probing in the scope of the '690 Patent because
14 WiMAX has other mechanisms for channel assessment. So, for example, we know
15 from if we go to Slide 21, Mr. Fuller, we know from WiMAX that the UCD
16 messages show that the Subscriber Station already determines any channel
17 characteristics before sending the ranging request message.

18 There's this disclosure of a CINR which is a carrier to noise, I'm sorry,
19 carrier to interference plus noise ratio monitoring. So the subscriber station
20 apparently is already doing its own kind of monitoring of channel characteristics
21 and when it figures out it has a problem, it says, hey, base station, lets change our
22 transmission characteristics.

23 That's separate and apart from what the claims of the '690 here we're citing
24 which is using a probe to determine channel characteristics. There were some new
25 arguments made in reply about a ranging status. Can we go to our Slide 22.

1 I just want to address that. The ranging status here and how that apparently
2 shows that WiMAX has a probe, but what ranging status says is that it's used to
3 indicate whether uplink messages, those are the messages sent from the SS to the
4 BS, are received within acceptable limits by BS. The limits of what?

5 Well according to disclosure here, it's the limits of the BS, not the channel.
6 It's also a status of the ranging process. Have we successfully ranged or do we
7 need to keep doing it? Not a status of the channel. And then if we go to -- we
8 don't have this on our slides, but if Your Honors have Petitioner's Slide 27, and I'll
9 wait and give us a second to get there, I think we can talk about this a little bit
10 further.

11 So on Petitioner's Slide 27, there's a figure in the bottom right that was taken
12 out of WiMAX Page 181 about "good enough." If you look at that flow chart with
13 good enough analysis is done on the ranging request, not on the ranging response.
14 So any good enough analysis isn't of the probe, it's of something else.

15 Maybe a probe request. And we know that because in the flow chart the
16 good enough decision point occurs above the sending of the ranging response
17 which is at the bottom left of that flow chart. Okay second issue with WiMAX.

18 The ranging request doesn't specify, excuse me, content payload of the
19 ranging response. If we go to our Slide 25, Mr. Fuller, there's two CIDs at issue
20 here. There's the CID in the generic MAC header, there's the basic CID in the
21 payload.

22 To the extent Petitioner is relying on the CID in the MAC header, of course,
23 the header is not part of payload so that can't satisfy the claims, but let's go on to
24 Slide 26 please. Here's the basic CID that's in the payload of the ranging response.

1 And I think this slide shows everything we need to see. In the disclosure of
2 Table 367, it says basic CID assigned by BS at initial access. It doesn't say basic
3 CID received from ranging request and specified by the request.

4 It tells us explicitly that if there's any specifying of the basic CID being
5 done, it was done by the BS initial access. Go to the next slide please, Mr. Fuller.
6 We also know that it's not specified by the ranging request because the BS can
7 change its basic CID pretty much whenever it wants to.

8 The only requirement for basic CID is it has to be some 16-bit value. I think
9 Mr. Bertonis had testified as we show here that it can be literally any 16-bit value.
10 So there's no specifying of a basic CID being done by the ranging request.

11 The ranging code index is another one that was relied on by Petitioner. And
12 the problem with ranging code index, if that's what they're relying on is there's
13 nothing in WiMAX that says that the ranging code index is being specified by the
14 ranging request.

15 WiMAX simply says the ranging code index is "sent by SS." But there's a
16 bunch of messages sent by the SS. There's nothing linking the ranging code index
17 to having been sent by the ranging request.

18 And since we have really detailed tables of all the data that comes in the
19 ranging request as part of the ranging procedure, it doesn't list ranging code index.
20 We can assume it's not in there, but we don't even need to assume.

21 There are examples in WiMAX of the ranging code index being sent
22 separate from the ranging request. So if you look at our, Patent Owner's response
23 at Pages 27 and 28 and I'll just read the citations into the record. If we look at
24 WiMAX, it's Exhibit 1013, it has Pages 206 and 207, specifically the top of Page
25 207, that shows the SS separately sending a ranging code from the ranging request.

1 All right, the third issue with WiMAX is that there's nothing about the
2 ranging response that characterizes or can be used to characterize the physical
3 layer. This relates to Claim 9 in the physical layer probe. Again, Judge Jurgovan,
4 we talked about timing being different from attenuation or signal delay.

5 And Mr. Holobinko's testimony about that, the ranging response is still just
6 setting communication parameters. Not being used to characterize anything about
7 the physical layer. Let's see. Oh, yes, we could address Claim 11 here.

8 Mr. Fuller, could you go to our Slide 29 please. So this is an issue that's
9 running throughout all of the challenges on Claim 11. This is the one that says
10 sending two probes simultaneously. Essentially back to the probe requestor.

11 And the problem with the challenge across all grounds is that there's nothing
12 in any of the references that says anything about two probe responses being sent
13 simultaneously. And so what Petitioner is relying on is essentially chance.

14 Now we had read that in the Patent Owner's response as being inherency-
15 based grounds. I understand now from their reply and from Mr. Kronenthal's
16 presentation today, they're relying on obviousness, but that doesn't get them off the
17 hook. Because there is no motivation to send simultaneously.

18 To set up the system to send those two message simultaneously. If we look
19 at the Petition, what is the motivation and the basis they use? At Page 38 of the
20 Petition, they say, "because it enables the SS to determine an optimal connection to
21 the network." Okay, let's just assume for a moment that the connection of the
22 network isn't optimal.

23 I will say that there's nothing in the reference that's saying that there's some
24 lack of optimal connection in the references, but even if we make that assumption,
25 determining an optimal connection of the network doesn't lead to simultaneity.

1 It doesn't follow that just because you have a general motivation to make
2 your connections more stable or more optimal that you would simultaneously have
3 these two messages being sent. The SS and it can determine an optimal connection
4 network in non-simultaneous probe requests too so the purported motivation just
5 doesn't get to the changes proposed to come to the challenged claims.

6 And then also, we'll submit that let me see if I have a slide on this, I don't
7 have a slide on this, the Petitioner addressed it in their Slide 43 which we don't
8 need to skip to, but essentially what they said is that WiMAX teaches multiple base
9 stations sending ranges and responses to the subscriber stations.

10 They argued that in their reply at 14. That's just not true. There's no nothing
11 in the reference about that. Moving on to Waxman, if we go our Slide 34, please,
12 Mr. Fuller. So Waxman's problem is that all three of the parameters that are being
13 sent relate to the transmission scheme.

14 And so, again, just like the ranging of WiMAX or DOCSIS, this is
15 parameter negotiation for determining how we're going to communicate with each
16 other back and forth, how many antennas are we going to use, what kind of
17 particular modulation mechanism we might use.

18 And if we go to Slide 35, Mr. Fuller, the response is if it's going to have
19 anything, it's going to have an indication acknowledging or approving the request
20 embedded in the probe request. So we read this as having, acknowledging and
21 approving not being substantively different. I don't know if Petitioner reads it
22 differently.

23 Maybe Mr. Kronenthal can tell us. But the thing is that it's optional. The
24 acknowledgement or approval is optional. And so because it's optional, and
25 because it's no more than just saying okay, what essentially we get is a probe
26 request saying change to these transmission parameters and the probe response

1 saying okay, and there's nothing being specified by the probe request for the
2 content payload of the probe response.

3 The approval is, at most, that the access point, the AP, it can use those
4 requested transmission parameters. Sure, you asked for four antennas. I've got
5 four antennas. I can do that. Okay. It's not a characterization of the channel.

6 If we turn to Slide 36, now there's probably some dispute in this case over
7 whether hypotheticals are appropriate or not, but let me just use this one. It was a
8 hypothetical I posed to Mr. Bertonis in his reply deposition trying to essentially
9 boil down Waxman to what it is.

10 We've got a message going from one node to another that says to change the
11 transmission scheme number 2. The second node, the one that received the
12 message, sends a message back to the first node in response and the message says
13 okay.

14 And I asked him, would that hypothetical meet Step 1A of Claim 1? He said
15 it could or it could not. So I asked him depending on what? He said depending on
16 how you read the claim. So I said, how about how you read the claim. Would it
17 meet it or not?

18 And he said it could go either way. So if he's not sure whether or not that's
19 set up which essentially is Waxman would read on Claim Element 1A, then we
20 would submit that Mr. Bertonis doesn't have a sufficiently reliable opinion to find
21 that Claim Element 1 A is met.

22 The reason being exactly as I just said. An approval of a requested
23 transmission scheme isn't sufficient to meet probe in the case. Now what about the
24 SSID if you include 802.11 as well? Well, identity of values is not specifying
25 as we talked about already.

1 The SSID is set by some other mechanism. It's not like the ranging request
2 is saying now from now on use this SSID and send this back to me or something
3 like that. The second issue, if we go to our Slide 40, is that essentially what
4 Petitioner is doing here is double dipping on the SSID.

5 Actually, I think Petitioner's Slide 54 might do a better job of this so I'll give
6 Your Honors a moment to get there. I'll be looking at their Slides 54 and 55. But
7 the reason Petitioner's double dipping here is if we see on Slide 54, they're relying
8 on the SSID parameter in 802.11 to satisfy the content payload of the probe.

9 Which, again, we dispute, but if the events turned to Slide 55, what they say
10 is it would be obvious in Waxman to have included a parameter for specifying the
11 recipient station of the probe response. Now Petitioner doesn't come out and say it.

12 They don't say we're also using the SSID. But the arguments are linked, I
13 mean to the extent we're using 802.11, that's exactly what the SSID is. It's a, it's an
14 identifier of the recipient station of the probe response. And so the SSID or at least
15 this identifier can't both be the content payload of the probe and the second node
16 because the claim language requires that you have to at least specify content
17 payload of the probe and then as a second element, and a second node.

18 You can't meet both elements by one disclosure. The other issue is that this
19 argument that's on Petitioner's Slide 55 about what the probe request would have
20 included, that's entirely an obviousness argument. That's an obviousness-based
21 argument.

22 It's not based on anything actually written in Waxman. And so that's an
23 improper reply argument and why do we know it's an improper reply argument?
24 Well, is you look at Page 4 of the Petition, we can see that the Petitioner proposed
25 Ground D, Waxman, 102, anticipation.

1 An obviousness type argument is incompatible at least with Ground D. So
2 because Petitioner didn't argue their Grounds D and E separately, and because
3 Petitioner didn't include an obviousness type argument like this in either its Ground
4 D or E, that's how we know it's a new one.

5 If we turn now to Petitioner's Slide 60, this is, again, Claim 11. I won't, I
6 won't over, I won't go back over what I already talked about on this one, but I think
7 this Slide 60 shows at least a discrepancy in Petitioner's position with what the
8 reference says.

9 So I heard Petitioner's Counsel argue that Waxman teaches multiple APs. I
10 mean, I personally don't read that in the disclosure at the bottom right here in
11 paragraph 52. It says you can use the AP 105 of Figure 1 and it says you could
12 also use "other suitable stations, APs, transceivers, units, devices, and/or systems."

13 It doesn't say multiple, and the way I read that as other suitable stations,
14 APs, et cetera is that you can use an AP. It doesn't have to be the exact AP in
15 Figure 1. It can be a different kind of AP. But there's no allowance at least as far
16 as I can tell disclosure of multiple APs.

17 Regardless of how you read that though, we can all agree that Waxman does
18 not teach multiple or one stations sending to multiple APs. If you even look at that
19 Figure 1 on the right, that is multiple stations sending to a single AP not one station
20 sending to multiple APs. Let's talk about ranging for a bit, DOCSIS 2.0's ranging.

21 If we go to our Slide 44, please, Mr. Fuller, here we can see essentially what
22 the Board found in the Institution Decision and got it right was that Petitioner had
23 flipped DOCSIS and WiMAX. DOCSIS is kind of like a cable implementation of
24 WiMAX in ways and instead of having the ranging request be the probe request
25 like in WiMAX, now that's the probe. So Petitioner essentially has it backwards.

1 But even still, it doesn't meet the claim elements. Still just like in WiMAX,
2 the ranging request isn't used by the CMTS to determine the characteristics of the
3 channel. Instead, just like in WiMAX, those characteristics are reported in
4 different ways.

5 There are also other mechanisms of monitoring and characterizing that aren't
6 part of the proposed challenge here. But there's other issues so, for example, the
7 UCD message, that's a generic MAC message. And it can be sent in two different
8 circumstances, either an initial or periodic ranging.

9 But Petitioner has merged both of those embodiments. For some arguments,
10 Petitioner says we're talking about initial ranging. For some arguments, Petitioner
11 says we're talking about periodic ranging, but there's no argument or evidence
12 about combining those two embodiments as would be required to meet a 103
13 challenge.

14 But that said, again, let's go back to Page 4 of the Petition. Page 4 of the
15 Petition has Ground J, DOCSIS 2.0 Section 102. So if they have any anticipation
16 challenge for ranging which is Ground J, they can't be combining embodiments. It
17 has to be a single embodiment.

18 So on the initial ranging, they rely on the ranging required parameter to
19 show that the UCD is what requests the ranging request. We agree and if you go to
20 I think our Slide oh, we don't have a good slide on that one, but if you -- we would
21 agree that the UCD does trigger a ranging request message on initial ranging.

22 But only on initial ranging. And so if we're going to link the UCD to the
23 ranging requests such that one requests the other, then we have to be limited to
24 initial ranging. But the problem is that they are also relying on periodic ranging to
25 support that the challenge characterizes the channel.

1 And that we have on our Slide 47. So what happened during reply is Mr.
2 Bertonis and Petitioner relied on Page 261 of DOCSIS 2.0 to show that the ranging
3 request was a probe, but he had to admit under deposition that the section that he
4 was relying on related to periodic ranging.

5 So again, that's where we have the merging of the two embodiments that
6 would be inappropriate under an anticipation challenge. There's also, if we turn to
7 our Slide 48, a new argument from the reply about downstream panel ID and
8 pending until complete.

9 So a downstream channel ID it's the same issue as the CID and WiMAX.
10 It's just an identifier that's chosen by the COTS at startup. And so the UCD can't
11 possibly specify the downstream channel ID because it was already specified. Go
12 to the next slide please, Mr. Fuller, Slide 49.

13 Pending until complete, it's no more than indication that parameters
14 previously sent have been applied. It doesn't relate to the ranging request. I didn't
15 hear too much today about our infringement positions at the District Court, but just
16 because it's in the briefing, I want to make sure I address it clearly here.

17 What Petitioner is trying to do is to say that the positions we've taken on
18 infringement in the District Court somehow should bear on our challenges here or
19 at least that they're inconsistent. I have two responses. The first response is that
20 what they rely on DOCSIS 3.1 it's not prior art. It's not even close.

21 It's not prior art by nine years. It can't inform anything about invalidity in
22 2009. And that any opinions that Mr. Bertonis has on DOCSIS 3.1 in reply
23 shouldn't be given very little weight because when I asked him about DOCSIS 3.1
24 in his first deposition, he said he didn't know about it. He wasn't there to talk about
25 it.

1 Litigation-based education for a reply is somewhat improper. And then the
2 end of my first point is if there's any inconsistency, the venue for that inconsistency
3 is the District Court. The venue for that inconsistency and the argument about
4 what the claims mean is for the District Court who can take both the litigation
5 positions taken and the statements made in IPR whether those were clear and
6 unmistakable disclaimers and determine whether things need to be done.

7 This is not the venue for that. This venue is to determine whether Petitioner
8 met its burden. Not whether Patent Owner is making consistent arguments. Now
9 that said, my second response is we are entirely consistent.

10 The P-MAP message that we rely on in the District Court is not one of the
11 messages in DOCSIS 2.0. And the UCD message that's being relied on here by
12 Petitioner is one of the messages in DOCSIS 3.1. UCD P-MAP, they are just
13 different messages.

14 And so, Petitioner's contention is that the UCD and the P-MAP messages are
15 similar and therefore were estopped from making some sort of argument about
16 them being different. That's just unfounded and not, not credible based on
17 DOCSIS 3.1 having those two separate messages.

18 I will also say that there was an argument today about the P-MAP being able
19 to be used for ranging. That is one of the potential ways of using a P-MAP
20 message. If there's a selection of how do you want to use this message ranging is
21 one of them.

22 To my knowledge, that is not what the infringement contention is. We're at
23 the District Court and so to the extent a message can be used for one thing, and we
24 argue infringement based on a completely separate use of that message, that really
25 has no bearing on what's going on here. Finally, I'll get to DOCSIS 2.0 testing.

1 And if we go to our Slide 55, Mr. Fuller, the issue is that DOCSIS 2.0 and
2 ISO 8802-2 doesn't say anything about what those transmissions, those test
3 transmissions are being used for. There's just simply no disclosure in the record.
4 There's nothing in DOCSIS 2.0 about it being used to characterize the channel.

5 There's nothing in ISO 8802 about that and so Petitioner's arguments are just
6 gap filling. Wherever the disclosure or the reference is, is silent. The ISO 8802
7 also for Claim 9, it's about loop-back tests of the Logical Link Control layer, the
8 LLC layer, not the physical layer.

9 So to the extent that there's a reliance on ISO 8802 for Claim 9, that relates
10 to a different layer of the OSI model which isn't applicable here. And if you go to
11 Slide 52, please, Mr. Fuller, I apologize for the small size of it, but top right there's
12 a depiction of the OSI layer model.

13 It's also in Mr. Bertonis's declaration it looks like paragraph 49. But the
14 Logical Link Control or the LLC layer is a layer higher than the physical layer and
15 as Mr. Bertonis testified during deposition, no person of skill in the art would
16 confuse the two.

17 They are absolutely different layers. Finally, I just want to note, I've already
18 talked about some of these, but Petitioner has made some new arguments in reply
19 which change its grounds it presents in the Petition.

20 Now we agree that Petitioner could address issues raised in the Institution
21 Decision and issues raised in the Patent Owner's response. That's black-letter law.
22 It's totally appropriate. But what's not appropriate is changing a prima facie case.

23 Especially changing a case that was characterized as anticipation to now
24 obviousness. I'll just give two quick examples of those although the rest are in our
25 briefing. The beginning of our surreply goes through these in pretty clear detail.

1 For WiMAX, the Petitioner sent a reply, this is their Pages 12 and 13 that a
2 basic CID and the ranging response would be known by a person of skill in the art
3 to have a certain value. The problem is this is an obviousness' theory.

4 If we go back to Petition, Page 4, they relied only on anticipation. For
5 Waxman, they say the reply at Pages 17 and 18, the probe response would have
6 included additional parameters for reception reliability feedback and specifying the
7 recipient station of the probe response.

8 The problem is, this is an obviousness theory as to Element 1A. Now while
9 they did have an obviousness theory as to Waxman, they were obviousness only as
10 to 1B if we look at the Petition at Page 51. The Petition at Pages 48 and 49 has
11 anticipation only as to 1A, so again, that's another prima facie challenge claim
12 change.

13 And then as a final example, for DOCSIS 2.0 rating change which I
14 mentioned already, Petitioner's reply at Page 23 said that a person of skill in the art
15 would have understood the ranging request probe the CMTS to diagnose the uplink
16 channel and sending timing and power adjustments such that it is a physical layer
17 probe.

18 Again, this is an obviousness theory. Petition is only anticipation for
19 Ground J which is DOCSIS 2.0 ranging. Again, at Petition at Page 4. Unless Your
20 Honors have any further questions, I will reserve the rest of my time and look into
21 that issue I told you I would look into, Judge Jurgovan.

22 JUDGE JURGOVAN: Yes, I don't understand your last comments
23 regarding the showing for Limitation 1A was based on 103 when the ground was
24 102.

25 MR. GALLUZZO: Oh, yes, I might have said that backwards so let me
26 make sure I'm saying it correctly. For Waxman, they had both 102 and 103

1 grounds, those are D and E. And if we look at Petition at Page 48 and 49. That's
2 the Petition's analysis for both Grounds D and E which they take together,
3 anticipation and obviousness for how Element 1A is met.

4 And if you read through that, at least on my read, and my read of the
5 Bertonis' declaration, this is an argument that Waxman discloses explicitly what's
6 required by Element 1A, not that there is any need for a person of skill in the art to
7 read something kind of like a single reference obviousness analysis.

8 Contrast that though with 1B, if we look at Page 51, the paragraph that starts
9 to the extent that Waxman does not explicitly disclose the "second plurality of
10 parameters" it would have been obvious. And then it goes on.

11 That's where obviously that's an obviousness type challenge, maybe it's a
12 backup for their Ground D anticipation, but there's no analysis like that in Element
13 1A. And so what we would submit is that by now adding in reply and obviousness
14 type analysis on Element 1A, that's changing the prima facie ground which isn't
15 appropriate.

16 JUDGE JURGOVAN: I understand. Thank you.

17 MR. GALLUZZO: Thank you, Your Honor.

18 JUDGE JURGOVAN: And we'll go back to the Petitioner now for rebuttal.

19 MR. KRONENTHAL: Thank you, Your Honors. So I want to address a
20 few things that came up just now. One, on the probe and ranging and how ranging
21 is doing channel assessment, so again, we spoke before and ranging there's a -- so
22 let's talk about the WiMAX one first. Right?

23 So there's a ranging request parameter. And that ranging request is sent and
24 then when it's received, it is analyzed to determine whether the channel is, if there's
25 a signal problem. If there's a signal delay. So then it's if there is, then it's sending
26 back a timing correction.

1 So that is the timing by sending back the timing correction, you are sending
2 back -- there's a problem with the channel and you need, and the subscriber station
3 needs to correct the problem. In the DOCSIS 2.0 similar thing with ranging.
4 Okay?

5 In that case, you have, so that's a cable case. Right? So this ranging is very
6 important because whether it's wireless or a wiring system, timing is very
7 important for getting the physical layer right. Right? So on the wireless side,
8 obviously a wireless communication you still needed timing. Even on the cable
9 side, timing is an issue. Right?

10 So the cable, depending on how long the cable is, you might have, you're
11 going to have signal delay. And so that timing needs to be perfect or close to it and
12 so because of that, in the DOCSIS 2.0, there's the UCD message. Right?

13 That triggers this ranging request message. Okay? To be sent, that ranging
14 request message when it's sent will be analyzed by the CMTS to determine if
15 there's a signal delay. So if there's a problem with the channel, then it will, if this
16 is a long cable, then you could have more signal delay.

17 And so then you're sending what it's going to then send back in a ranging
18 response in the DOCSIS 2.0 is that here's that correction that needs to be done.
19 But that ranging request message that's sent from the CM is triggering the CMTS
20 to characterize the channel.

21 That meets clearly their definition for the use to characterize the channel.
22 Now I want to talk more about what they said about what the meaning of probe. It
23 appears that they want the probe to include the signal to noise ratio although they
24 never come out and say that and probably because it's not in the Patent.

25 The Patent doesn't say the probe includes a signal to noise ratio. Okay? So
26 that seems to be the underlying thing in their argument why all of our things don't

1 meet the probe because they want to say they don't have, we haven't provided them
2 a single to noise ratio in that. But again, that's not in the Patent.

3 I also heard Counsel say that we're not giving weight to the physical layer
4 term that we're treating it as superfluous. Well, that's not true and I addressed this
5 in the beginning that there is, weight should be given to it. It rules out upper layer
6 type probe that might exist. Okay?

7 That physical layer of probe means that we have to do a probe to get that
8 physical layer right. And again, all of our probes do physical layer probes so its
9 not that we're not giving weight to that term, we certainly are. It's just that all the
10 probes we're talking about are physical layer probes. Another thing I want to talk
11 about.

12 It came up there was a question was asked about the construction for probe.
13 And Counsel's answer was well when he read back the construction, I note he read
14 back just the first one with the use to characterize the language. He didn't read
15 back that second one as I previously pointed out that doesn't have the use to
16 language.

17 But his arguments are narrower than that use to language. Again, he's
18 effectively trying to I think say that it has, the probe has to have the signal to noise
19 ratio. But that, again, is not in the Patent. Also not in the claims. The claims don't
20 require that.

21 Another thing I want to address is that I think I heard counsel well I did hear
22 counsel clearly say, admit that the test response justifies the payload content. So
23 that means, the test response meets Claim 1. I think they have no other arguments.

24 Their argument for the test response unless they're still arguing that that's not
25 a probe, but they didn't argue that in the surreply. They only argued that it was not
26 a physical layer probe, but again, we've talked about that.

1 If the test request has that mode parameter as a zero or one, that's going to
2 specify that test response upstream signal so that it's either the negative ones or the
3 ones or all ones. Okay? And so they, and then they said that teaches also that
4 Limitation 1A.

5 So I don't believe there's any arguments remaining for the test response
6 meeting their Claim 1. Also, they, I think we heard towards the end there that they
7 talked about how conflating initial ranging versus periodic ranging. Let's be clear,
8 when that DOCSIS 2.0 UCD message is sent and initially the ranging request
9 message is sent, it is analyzing that range and request message whether it's doing --
10 it's going to do it again later in periodic ranging, this message is going to, this
11 ranging request message will go back multiple times.

12 But if that analyzing that is happening even with the first ranging request.
13 So it doesn't matter whether we're not conflating or mixing up embodiments here.
14 We're -- the UCD message is going to, we will respond to this.

15 The UCD message triggering that ranging request and then analyzing that
16 ranging request and going to send back the corrections as needed, timing and
17 power corrections. Now let's see what, also I heard something about double
18 dipping. I want to address that.

19 I think they have Slide 40 when they were talking about that, but I'd like to -
20 - Camille, if you could pull up our Slide 54, about and this was about the SSID
21 parameter. We didn't, you know, so I think I addressed this slide before too, but so
22 the yellow highlighted language where the first plurality primers that we specific
23 content payload to the probe that's what we pointed for the SSID, this is a backup
24 position by the way, but that would meet that part of the claim.

25 We didn't rely on it for, we didn't double-dipping, we're not relying on it for
26 the second node. If we go to Slide 55, see this slide highlights that part of the

1 second node. Nothing about here is off the SSID. Okay? We didn't, we're not
2 relying on the SSID for the second node.

3 The reason the second node is specified is because it's sending Waxman
4 described that it's sending back to the station that sent the request. So that's where
5 the second node is specified. So I'll just read the paragraph 4 to you at the very top
6 there and some embodiments, for example, Station 102 may transmit a probe
7 request indicating that AP 105 is requested to transmit data to Station 102.

8 So this is the probe request indicating that it's got to send back the probe
9 response so that's what we relied on for that. Again, we're not double dipping,
10 we're not using an SSID parameter for that. That was incorrect.

11 Let me know also if I could go to I think Slide 34 of Entropic's
12 demonstrative. I would like to address this claim construction issue again because
13 I note the bullet here at the top where they said Waxman's "probing involves the
14 station requesting the AP to transmit messages using a particular transmission
15 scheme."

16 Well this slide shows the problem with Entropic's construction for probe
17 because the term probe should include messages that do probing like querying and
18 questioning or testing. Nothing in the '690 Patent excludes messages that do
19 probing from the claimed probe.

20 Yet Entropic's constructions seem to have required more than just probing
21 and they should not be adopted. I would also like to go to Slide 11 of Entropic's
22 demonstratives. So I have Slide 11 on here, but it applies to Slides 12 and 13.

23 On Slide 11, Entropic points out that Mr. Bertonis agreed that simply
24 communicating information is not a probe. Well he did agree. And Petitioner
25 agrees. That's why we didn't rely on signals or messages that merely communicate
26 information like voice or image data.

1 Instead, we relied on messages that act as probes and fit within the examples
2 of the '690 Patent. Entropic is all over the place on their arguments against us.
3 Sometimes they accuse us of not giving the term probe any meaning and instead
4 treating all messages as probes.

5 Other times, like on this Slide, they try to incorrectly use Mr. Bertonis's
6 testimony about what's not a probe to suggest that our prior art messages are not
7 probes. I would now like to go to Entropic's Slide 17.

8 This is where they begin their argument that WiMAX's ranging response is
9 not the claimed probe because it allegedly does not characterize the channel. Well,
10 first I want to note the header. It says WiMAX's ranging response message does
11 not characterize the channel.

12 They dropped the “use to” language here because they're arguing the whole,
13 they want to argue this narrower part not their actual claim construction whether
14 it's used to characterize this in a channel.

15 But regardless the ranging response does characterize a channel because,
16 again, it sends the timing and power adjustment to maintain the quality of the
17 channel. The base station determines if the ranging request is within acceptable
18 limits, if there's timing delay or power attenuation through the channel then timing
19 or power adjustments are sent in response.

20 In this way, the ranging response characterizes the channel as having signal
21 delay or power attenuation such that future transmissions can be adjusted. And
22 this can be seen on the snippet here on the bottom right of the slide.

23 It refers to the reception thresholds that need to be checked and the timing
24 delays through the PHY layer. That's the physical layer. That's the channel. So
25 even if timing and power adjustments are not themselves characteristic of a

1 channel which I think we've heard them say, by sending the adjustments, the
2 ranging response is characterizing the channel.

3 It is saying there is a signal delay or power attenuation in the channel. So
4 but Entropic's arguments are even narrower than it's in construction as I was just
5 pointing out. It's probe construction does not say the probe must include a
6 characteristic of the channel like the signal and the noise ratio.

7 Again, they don't argue that because it's not in the Patent and it's not in their
8 claims. I also want to go to Slide 26 of Entropic's demonstratives. Slide 26 shows
9 Entropic's argument against our reliance on the basic CID of Limitation 1A.

10 So they argue that the basic CID is not specified by the ranging request
11 because it was previously assigned by the base station. But again, the claims do
12 not preclude the base station from previously assigning the basic CID.

13 In other words, the probe request does not have to be the message that first
14 assigns the content payload. It also doesn't matter that the base station may change
15 the value. If the base station decides to use the CID from the ranging request for
16 the basic CID in the payload of the response and that's what we rely on, and what
17 Entropic admits may happen, then the CID in the request specifies the basic CID in
18 the payload of the response.

19 And this meets the claim. Bottom line is there's no support for their
20 treatment of specifying to exclude what WiMAX's ranging procedure does.
21 Treating specifying as they do, is even inconsistent with the use of specifying in
22 earlier in claim Limitation 1A where it says wherein specifying of the first, it says
23 that the probe response, I'm sorry, probe request specifying the first plurality of
24 parameters simply means that simply means that the probe request includes or
25 identifies those parameters.

1 So this idea that the second instance of specifying Limitation 1A has some
2 special meaning is not, has no support and the specification, has no support in the
3 claims. If we could now go to Entropic Slide 30.

4 Entropic's Slide 30 shows Entropic's new argument for Claim 11 that they
5 first made in their surreply. They didn't argue it against the -- they didn't argue
6 against this arrangement of a single subscriber station communicating with two
7 base stations so this argument should be waived. I mentioned that before.

8 But more importantly, again, this argument fails because it only attacks
9 WiMAX for what it discloses. As shown in the header on the slide, Entropic is
10 arguing that WiMAX only discloses one base station sending a ranging response to
11 one subscriber station and that's fine, we never relied on WiMAX for expressly
12 disclosing the subscriber station communicating with two base stations.

13 We asserted obviousness and explained with reasons and motivations that an
14 SS would perform the ranging procedure with two base stations. Ranging is
15 necessary in this situation for any -- to establish that RF link communication.

16 So if it's going to do it independently with one base station, it's going to do it
17 independently with the other one. And then so again, on this slide, Entropic is
18 once again, picking on Mr. Bertonis, but he simply provided honest and truthful
19 testimony about the extent to which WiMAX expressly discloses this scenario.

20 And if you go to his declaration, which is Exhibit 1002, paragraphs 250 to
21 258, there he addresses that the scenario would have been obvious. And I know he
22 cites to Zuckerman for support and Zuckerman discloses a WiMAX system that
23 depicts subscriber station communicating with multiple base stations.

24 Next I would like to go to Entropic's Slide 57. This is where they start their
25 argument where they accuse us of introducing new theories in reply, but our reply

1 arguments are proper responsive arguments particularly in light of the new PLR
2 claim constructions and the interpretations of specifying and other limitations.

3 But regardless, the positions in the Petition cover the plain and ordinary
4 meaning of the claims. We don't need the allegedly new arguments. For example,
5 the argument on Slide 57 was only to address if Entropic was going to make up
6 some argument about the base station not using the CID for the basic CID.

7 But they admit that it would be used in some cases which is what we are
8 relying on happening. So that backup argument was not even needed. If we could
9 now turn to Slide 62. On Slide -- of Entropic's, sorry. It's Entropic's
10 demonstratives Slide 62 we see the start of Entropic's assertion that Mr. Bertonis's
11 testimony should be given little weight.

12 But Mr. Bertonis is a qualified expert. He's an engineer. He's not a patent
13 attorney or a career expert witness. Their criticisms of his testimony are
14 unwarranted. For example, on this slide, on the left he's just asking from where the
15 Zuckerman issue comes up in his declaration.

16 And on the right, he should be allowed time to study the DOCSIS reference,
17 it's hundreds of pages long, to answer questions about time intervals that have
18 little, if any, relevance to the issues. Mr. Bertonis's testimony should be given full
19 weight.

20 Even Entropic conceded in its surreply at Page 5 that "Mr. Bertonis appears
21 to have technical knowledge and experience." They just complain that "he did not
22 put it to good use here."

23 JUDGE JURGOVAN: Counsel, is this the testimony of Mr. Bertonis
24 because he's saying it's Mr. Galluzzo.

25 MR. KRONENTHAL: Mr. Galluzzo is Entropic's counsel, Your Honor. So
26 he was out, yes, so this is Mr. Bertonis's transcript.

1 JUDGE JURGOVAN: Oh, I got you. Thank you, sorry.

2 MR. KRONENTHAL: Yes. If I, if we're going to talk about expert
3 testimony, I would like to talk about Mr. Holobinko's credibility. And I would like
4 to show you Entropic's Slide 14. So on Slide 14, Entropic attempts to brush aside
5 Mr. Holobinko's different claim construction as inconsequential, but he clearly
6 stated at his deposition that his three extra words were important.

7 So if his other declaration testimony is not even using his own construction
8 like he said he was using, then there's an issue with his opinions. And moreover, I
9 want to point out at the bottom of this slide, the very bottom snippet, it's paragraph
10 107 from Mr. Holobinko's declaration. He said that a set of ones and negative ones
11 is not usable for channel diagnostics or for characterizing the channel.

12 Well, a set of ones and negative ones is a square wave which he admitted
13 during his deposition. And that means his declaration testimony directly
14 contradicts the Patent which states "a probe request may specify a time domain
15 probe to generate a square wave or other easily analyzed signal for channel
16 estimate purposes."

17 That's Column 956 to 58 of the Patent. This is just one example of how Mr.
18 Holobinko's testimony is not credible. If any testimony is given little weight, it
19 should be Mr. Holobinko's testimony. And I see my time is almost up. So unless
20 there's any other questions, I'll just finish with that.

21 On behalf of Petitioner, Comcast Cable Communications, we ask the Board
22 to cancel all claims and thank you for your consideration.

23 JUDGE JURGOVAN: Thank you very much. Your surreply now from
24 Patent Owner.

1 MR. GALLUZZO: Thank you, sir. Thank you, Your Honors, Vince
2 Galluzzo again on behalf of Patent Owner. I'll just initially state that a number of
3 Mr. Kronenthal's arguments were beyond the scope of my presentation.

4 He addressed slides that we didn't talk about. But to start with where Mr.
5 Kronenthal ended, with Mr. Holobinko's extra language, let's go to our Slide 14,
6 Mr. Fuller. So as I told the Board when I was talking about how we came to our
7 construction, the "having a form" wasn't language that Mr. Bertonis had agreed to
8 and so to make the construction as easy as possible on the parties and Board and to
9 try to come up with what we thought would be a stipulated construction, we didn't
10 include the "having a form" in what we proposed in this case.

11 Mr. Holobinko did say that the language was important to him, but as we
12 can see underneath the line on the Slide 14, that this is Mr. Holobinko's testimony
13 and his declaration. He didn't actually use that "having a form" element that
14 requirement to distinguish over any of the prior art.

15 And so for that reason, that's another reason we didn't include the "having a
16 form" language in our proposed construction is because it's not necessary to
17 include to resolve the parties' disputes here. And then finally, there's already
18 similar language elsewhere in the independent claims about the form of the probe.

19 We were worried it would be considered somewhat superfluous and so that's
20 why we didn't include it. The important thing though is to be extremely clear, even
21 though our headings might be shortened or might not have every single word of the
22 claim limitation or our proposed construction for space, our proposed construction
23 is exactly as I said it was even if we might paraphrase here and there again for
24 word count.

25 A signal or message used to characterize or assess the communications
26 channel or path between two nodes. To the extent there's any concern over Mr.

1 Holobinko's testimony, I'll just mirror what Mr. Kronenthal said about Mr.
2 Bertonis.

3 Mr. Holobinko is not a lawyer or professional expert either. So his
4 testimony should be taken in that context. One thing about claim construction
5 before I move on, is I still haven't heard a proposed claim construction for probe
6 from Petitioner.

7 So it appears we're not going to get one. But in terms of what ranging is and
8 is not, Mr. Kronenthal said that ranging is a changing of parameters based on what
9 is happening on the channel. And that's a paraphrase. I couldn't get his language
10 exactly as I was writing it down. But that's different than a probe.

11 As I talked about earlier, and to rehash it again, a receiver such as a CMTS
12 or a base station, when it receives a probe such as from a cable modem or a
13 subscriber station, it uses that probe to assess the channel.

14 A sending of a characterization itself, is not what the claim is talking about.
15 And so when Mr. Kronenthal said that we really want to include SNR in what the
16 probe is, I am going to be very clear, that is not what we're asking for.

17 We are not saying that the claim requires SNR being in the probe. But if
18 we're going to use SNR as an example, one embodiment that could fall within the
19 scope of the claims is if a probe is received and then used to determine SNR of the
20 channel.

21 That is within the scope and so that's where the difference is between
22 sending parameters and using a message which has certain content payload is
23 dictated to then determine characteristics of the channel. That's what the claim is
24 talking about.

25 Now on DOCSIS testing Mr. Kronenthal said that we might not be
26 contesting Element 1A, that's not true. I want to be very, very clear about that.

1 While we do not dispute the specified content payload element, we do dispute as I
2 argued that DOCSIS 2's testing signal is not a probe. I went through all of this
3 before.

4 I won't rehash it again, but we do contest that Element 1A is met by
5 DOCSIS testing. We just do not contest limited to specified content paper. And
6 then finally, if we could go to our Slide 11 please, Mr. Fuller.

7 When looking at this slide, which I don't believe I addressed the first time
8 around, but regardless, Mr. Kronenthal said that we were all over the place with
9 our construction of probe and what we mean. So I think that was in relation to the
10 Markman hearing transcript we were talking about earlier, which again, is about
11 content payload.

12 That dispute, that discussion was all about what it means to be content
13 payload of messages generated. What the dispute is here, is whether something is
14 a probe. So if we have Mr. Bertonis saying just because we're communicating
15 information, we're not a probe.

16 I mean I would agree with him if that's all you're doing. If you're sending
17 information, just back and forth such as like in ranging, but that doesn't mean that
18 the information in some other context can't be content payload.

19 That's so that, that's the distinction there is that Mr. Bertonis saying you have
20 to do something more than communicate information to be a probe, is consistent
21 with our position. But that doesn't mean that we're being inconsistent ourselves.
22 When we argue about what content payload can and can't be in one context, in the
23 abstract, that's a lot different than arguing what a probe is, has to have and be used
24 for.

25 So unless there are any further questions, Your Honor, we'll rest on our
26 papers there and thank you for your time today.

1 JUDGE JURGOVAN: All right. Thank you all for your presentations.
2 They are very helpful and we will, of course, study them further and render our
3 decision in due course. I think if there's no other issues we are adjourned.

4 Please do remain in the room for a moment though in case the Court
5 Reporter has any questions to ask you. And thank you, again.

6 (Whereupon, the above-entitled matter went off the record at 12:07 p.m.)

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