

UNITED STATES 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

U.S. PATENT NO. 8,284,690

PATENT OWNER'S SUR-REPLY

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Ex. 2001:	Joint Claim Construction and Pre-Hearing Statement (Case 2:23-cv-01049-JWH-KES)
Ex. 2002:	Deposition Transcript of James Bertonis
Ex. 2003:	U.S. Patent No. 8,146,125 by Grinkemeyer
Ex. 2004:	U.S. Patent No. 8,228,910 by Wu
Ex. 2005:	U.S. Patent No. 8,634,498 by Mueller
Ex. 2006:	DOCSIS 3.1 MAC and Upper Layer Protocols Interface Specification
Ex. 2007:	Expert Declaration of John Holobinko
Ex. 2008:	Reply Deposition Transcript of James Bertonis

I. THE REPLY AND REPLY DECLARATION IMPROPERLY RAISE NEW *PRIMA FACIE* INVALIDITY THEORIES

“A ‘petitioner may not submit new evidence or argument in reply that it could have presented earlier, *e.g.*, to make out a *prima facie* case of unpatentability.’” *ScentAir Technologies, LLC v. Prolitec, Inc.*, IPR2021-00014, Paper 22 at 44 (PTAB Apr. 22, 2022). Thus, it is impermissible for a petitioner to argue in a petition that a single reference discloses a limitation, but then argue in reply that there was motivation to combine references to arrive at that limitation. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016); *see also Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1329-31 (Fed. Cir. 2019); *Wasica Fin. GmbH v. Cont'l Auto. Sys., Inc.*, 853 F.3d 1272, 1286 (Fed. Cir. 2017). It is also impermissible to assert previously unidentified embodiments of prior-art references in a reply. *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367-68 (Fed. Cir. 2015). Petitioner's reply violates these tenets. Mr. Bertonis' **79-page** reply declaration (twice as long as Mr. Holobinko's declaration to which it allegedly responds) is emblematic of Petitioner's attempts to sneak another bite at the apple.

Petitioner's reply introduces impermissible new arguments, transforming what were originally presented as anticipation theories into obviousness. Petitioner attempts to couch these arguments in terms of what a POSITA “would have

understood,” but in reality Petitioner is using expert say-so to fill gaps in the cited art. *Compare* Petition, 4 *with e.g.* Reply, 12, 23, 24. Such gap-filling arguments are incompatible with an anticipation challenge, so they necessarily could not have been part of Petitioner’s theories in the Petition. *See Scripps Clinic & Research Fdn. V. Genentech, Inc.*, 927 F.2d 1565, 1576 (Fed. Cir. 1991) (“The role of extrinsic evidence is ... not to fill gaps in the reference”) (overruled on other grounds by *Abbott Labs. v. Sandoz, Inc.*, 566 F.3d 1282 (Fed. Cir. 2009)). These arguments are new, incompatible with the anticipation-based grounds as presented, and cannot be raised at this late stage.

For WiMAX, Petitioner argues in Reply that a Basic CID in a RNG-RSP is a certain value because it “would have at least been one of the finite number of predictable implementations ... that WiMAX alone identifies and that a POSITA would have had an expectation of success in implementing” Reply, 12-13. But Petitioner has no obviousness challenge for WiMAX on the independent claims—only anticipation. Petition, 4.

For Waxman, Petitioner argues in Reply that the probe response “would have included [additional] parameters for” determining “reception reliability and provid[ing] feedback.” Reply, 17-18. Petitioner also argues in Reply that the probe request “would have included a parameter specifying the recipient station of the probe response.” Reply, 18. But neither argument does anything for Petitioner’s

Ground D anticipation challenge, and neither argument matches Petitioner's Ground E obviousness challenge. In the Petition, Petitioner relied on obviousness only for element [1B] (Petition, 51) but now attempts to use it in two different ways to meet element [1A] (Reply, 17-18). These are impermissible new opinions.

For DOCSIS 2.0's "ranging" (Ground J), an anticipation-only challenge at the Petition stage (Petition, 4), Petitioner now brings in obviousness: "A POSITA would have understood that the Ranging Request probes the CMTS to diagnose the uplink channel and send timing and power adjustments, and therefore is the 'probe' and 'physical layer probe.'" Reply, 23.

Finally, for DOCSIS 2.0's testing (Ground K), Mr. Bertonis opined at the Petition stage that the DOCSIS 2.0 test signal could be used to diagnose problems with the cable modem. *See* Ex. 1002, ¶ 609. Yet when repeatedly asked about his basis for this opinion during his Petition-declaration deposition, he could not identify any evidence aside from his own conjecture. *See* Ex. 2002, 119:14–15 ("presumably, the cable modem is analyzing that test signal"), 119:25–120:1 ("I'm presuming that the CMTS is analyzing that information"), 120:16–17 ("it's used by that test message presumably"), 122:1–2 ("presumably you're making tests and doing something with it"). Now, he conveniently has answers—new evidence and new opinions relating to Ex. 1010 at pages 96–98 and 508. *Compare* Ex. 1036, ¶¶ 70–72 *with* Ex. 1002, ¶ 609. The time to provide those opinions and bases were in the

Petitioner or, at the latest, in his first deposition. After-the-fact homework cannot save Petitioner or Mr. Bertonis from their earlier mistakes. All these new opinions and invalidity grounds should be ignored.

II. MR. BERTONIS'S TESTIMONY SHOULD BE GIVEN LITTLE WEIGHT

Mr. Bertonis's deposition on his Reply Declaration cemented that his testimony, apart from being new, should be given little weight. In general, Mr. Bertonis refused to answer basic questions about the references he supposedly reviewed and considered, when the question could not be answered by reading directly from his declaration. *See, e.g.*, Ex. 2008, 168:24-170:9, 170:22-172:12. He refused to answer basic questions about whether he had an opinion on the meaning of a claim term. *Id.*, 186:10-187:7. He refused to answer hypotheticals to explore the basic meaning of words used in the claims as he interpreted them, such as "specify" and "specifying." *Id.*, 188:8-190:1 ("Q. So you're refusing to answer? A. Basically, yes."). At one point, he even stated his explicit refusal to answer any hypothetical questions designed to explore the scope of his opinions. *Id.*, 210:9-21. In fact, when asked about one of his combinations and what reference he's starting with and what he's adding or combining, Mr. Bertonis truthfully testified, "Well, I'm not sure what I'm proposing." *Id.*, 243:19-244:24. The reason Mr. Bertonis could do little more

than regurgitate the words written in his declaration? Petitioner's lawyers wrote most of his declaration for him. *Id.*, 150:11-18, 151:4-10, 151:23-152:4.

Mr. Bertonis's deposition conduct and the fact that his declaration and numerous exhibits were provided to him so he could "scan[] through them" (Ex. 2008, 210:22-211:1, 214:25-215:10) undermines the usefulness of his testimony. While Mr. Bertonis appears to have technical knowledge and experience, he did not put it to good use here. Accordingly, the Board should carefully scrutinize his opinions and, where he departs from the clear disclosures of the references or attempts to gap-fill based on his say-so alone, give those opinions minimal weight.

III. PETITIONER'S NEW, VAGUE CONSTRUCTIONS OF "PROBE" AND "PHYSICAL LAYER PROBE" CANNOT SAVE ITS FAULTY CHALLENGES

A. Petitioner's Rewrite of History Cannot Change That Both Experts Agree on What a "Probe" Is

Throughout the Reply, Petitioner argues that the "plain and ordinary meaning [of 'probe'] should apply," yet Petitioner nowhere offers what that plain and ordinary meaning is. Reply at 3. *See O2 Micro Int'l, Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1361 (Fed. Cir. 2008) ("'plain and ordinary meaning' may be inadequate ... when reliance on a term's 'ordinary meaning' does not resolve the parties' dispute"). The reason for Petitioner's silence is twofold. First, by not providing a written definition for the term "probe," Petitioner can (and does) treat

the word as having essentially no meaning, thus proving Patent Owner's criticisms.¹ See POR at 11-15. Second, it allows Petitioner to brush over the case-dispositive fact that both experts in this case agree on the *salient* requirements for a "probe." That they do not agree on every word is irrelevant; their common ground is the plain and ordinary meaning that the Board should apply here: *a signal or message that is used to characterize (or assess) the communications channel (or path) between two nodes.*

Petitioner makes hay of Mr. Holobinko's proposed construction including three additional words, "having a form," not proposed as part of the POR construction. *E.g.*, Reply at 2 & n.2. Patent Owner did not include those words in its proposed construction in the POR because they were not agreed to by Petitioner's expert Mr. Bertonis and because this IPR can be resolved in Patent Owner's favor without those three additional words. Mr. Holobinko's opinions that the cited prior

¹ Ironically, Petitioner both contends that there is a "plain and ordinary meaning" of "probe" but that there is "no ubiquitous definition in the art." Reply at 3. Those two things cannot both be true, or at the very least demonstrate that *some* definition must be given to the term to resolve the dispute here, else without a "ubiquitous definition in the art," the "plain and ordinary meaning" could mean anything either party wants.

art messages are not probes is not based on their failure to have a *form* used to characterize the channel, but more broadly because they are not used to characterize the channel at all. *See id.*, ¶ 64 (“WiMAX’s ranging procedure ***does not characterize the channel***”); ¶ 102 (“Ranging ***does not involve characterization of the channel***”); ¶ 107 (“the ordered (as opposed to randomized) set of 1s and -1s ***is not useable for channel diagnostics or for characterizing the channel***”); ¶ 109 (“The test ***does not aim to characterize the channel***”). Regardless, even Mr. Bertonis opined—contrary to Petitioner—that Mr. Holobinko’s definition is “similar” to that of the POR. Ex. 1036, ¶ 11.

Petitioner also wastes words on what happened pre-institution, whether arguments in the POPR or arguments that Patent Owner advanced—and lost—in the *Charter* district court case. *E.g.*, Reply at 1-2. What matters now is that Mr. Bertonis agreed, *post-institution*, to Patent Owner’s proposed construction of “probe”—that is, until Petitioner’s counsel wrote him a declaration saying something completely different. Whereas Mr. Bertonis testified unequivocally in November to “probe” meaning “a signal used to assess the communications path,” Ex. 2002, 9:21-10:10, his attorney-drafted Reply Declaration attempts to rewrite history by claiming his testimony was only “an example” or pulled his “statements out of context.” Ex. 1036, ¶ 6. Neither is true:

Q. What was your understanding of the word “probe” that you used in your analysis in this case?

A. Well, it would be the same understanding that I had of probe in general, which is used – a signal used to assess the communications path.

Ex. 2002, 10:5-10. Nothing in that testimony says anything about an “example” or has been pulled “out of context.”

Mr. Bertonis's and Petitioner's reliance on several Entropic patents does not help their case. Mr. Bertonis admitted those patents were provided to him by counsel, and that he only “scanned through them” and did so “relatively fast.” Ex. 2008, 210:22-211:1, 214:25-215:10. Had he or Petitioner actually reviewed the patents, they would have realized the patent disclosures support Patent Owner, not Petitioner. Two examples follow, which is all space permits:

Exhibit 1045 allegedly supports Petitioner because it “describes a similar ‘ranging’ method using ‘probe packets.’” Reply, 6. In reality, Exhibit 1045 discloses far more than an exchange of parameters (like what Petitioner relies on from WiMAX, Waxman, and DOCSIS 2.0) but a calculation of “an estimated propagation delay between the first and second notes” so as to synchronize the two based on the propagation delay caused by the communications channel between them. *E.g.*, Ex. 1045, Abstract.

Exhibit 1046 allegedly supports Petition because it is a “probe for timing adjustments.” Reply, 7 (citing Ex. 1046, 2:40-44). In reality, the portions of Exhibit 1046 not cited by Petitioner or Mr. Bertonis say that the probe at issue contains a pseudo-random sequence that the transmitting and receiving nodes both have, and which are “cross-correlated” to each other to determine the channel’s effect on that sequence. Ex. 1046, 2:45-63. This, of course, sounds a lot like the claim construction in the *Charter* court, and sounds nothing like Petitioner’s amorphous “plain and ordinary meaning.”

Even if the other Entropic patents were relevant, however, the Federal Circuit has recently rejected reading related patents too closely for claim construction purposes when they have different language. *See Maquet Cardio v. Abiomed*, 23-2045, 2025 WL 876718, at *5 (Fed. Cir. Mar. 21, 2025). The Entropic patents cited by Petitioner and Mr. Bertonis are not even related to the ‘690 patent, meaning that principle applies even more strictly here.

At bottom, Petitioner’s Reply arguments are based on its vague and incoherent definition for “probe” that encompasses “many (although not all) signals for ‘various’ uses, including (but not limited to) channel assessment, network diagnosis, network maintenance, and assistance with network admission.” Reply at 6. What does that even mean with its “although not all” and “but not limited to”? Petitioner seems to be arguing that a signal used for any of these purposes *could* be a probe, or

it might *not* be a probe—Petitioner does not offer any other guideposts that would make for a workable construction. And Petitioner's vague statements cannot overcome the clear and explicit testimony of its own expert on the meaning of probe. Petitioner thus cannot meet its burden, the Board should adopt the meaning of “probe” agreed by both experts, and the Board should reject all the challenges to the claims because Petitioner's challenges fail to establish that the prior art satisfies that meaning.

B. Merely Exchanging Parameters Is Not Probing

Each of Petitioner's challenges suffers a fundamental, and common, flaw in that Petitioner's read of the prior art is contrary to the plain and ordinary meaning of the term “probe.” Whereas the plain and ordinary meaning agreed by both parties' experts requires that the probe be used to *characterize* or *assess* the communications channel, Petitioner contends that a simple passing of parameters between two nodes is enough. Petitioner is wrong.

One node telling another node what to do is not being used to *characterize* or *assess* the communications channel, it is just being used to set some parameters to their defined values. In one candid moment in Mr. Bertoni's deposition, he agreed that “assess” (as used in the plain and ordinary meaning of “probe”) means to perform a technical analysis or diagnosis. Ex. 2008, 191:19-192:13. Passing parameters is not a technical analysis or diagnosis. Similarly, Mr. Bertoni admitted

that signals or messages that are just “communicating information” are not probes. Ex. 2008, 217:21-219:11. This is true even where the signals or messages contain a CID or have identical parameters. *Id.*, 219:12-220:11. What then is the difference between those non-probe signals/messages just “communicating information” and the ranging messages Petitioner relies on from WiMAX, Waxman, and DOCSIS 2.0? Nothing.

Petitioner and Mr. Bertonis know this, so both run away from their Petition grounds and rewrite their challenges as something different than was presented before.

For WiMAX, Petitioner no longer contends that the specific messages RNG-REQ and RNG-RSP invalidate the ‘690 patent claims, but that the entire ranging process—not just those two messages themselves—is what invalidates. *See* Ex. 2008, 225:3-6. For example, in Reply, Petitioner argues that the ranging process—not the RNG-REQ and RNG-RSP messages—“require[] assessing the current timing and power of a channel ... and diagnosing a problem with the current timing and/or power ... to determine adjustments.” Reply, 6. Absent is any discussion of using the RNG-REQ and RNG-RSP messages in those processes. Regardless, it is too late for Petitioner or Mr. Bertonis to so fundamentally change their *prima facie* case. Having proposed specific messages (RNG-REQ and RNG-RSP) as invalidating, Petitioner is stuck with that decision. And those messages fail to invalidate the claims.

Petitioners' and Mr. Bertonis's similarly new opinions on DOCSIS 2.0's ranging fall to a similar fate.

For Waxman, Petitioner contends "the probe response characterizes the channel as acceptable for the requested transmission scheme" because "'embedded in the probe request' is a request for the acknowledgement," but that is about as tortured a reading of Waxman as you could make. Reply, 16-17. What Waxman actually says is that it is the "requested transmission scheme" that is "embedded in the probe request," not a request to respond. Ex. 1007, ¶ [0037]. That is why Waxman's response is optional and why it is only a simple acknowledgement. POR at 31; Ex. 2007, ¶¶ 80, 83. A simple acknowledgement is not used to *characterize* or *assess* the communications channel, and it is not even a message that says the requested transmission scheme is appropriate for the channel, it is simply a message that says "OK." If what Petitioner and Mr. Bertonis say is true, that would mean all ACK-NACK messages are probes.

Again, Petitioner tries to run away from this by embracing a brand-new theory that "the probe responses would have included parameters," in addition to an acknowledgement, that would be used to characterize or assess the channel, but it is too late for Petitioner to do so. Reply, 17-18. Petitioner also adds other new arguments that Waxman uses the probe responses to "evaluat[e] whether a requested transmission scheme may be used for the physical layer," but that finds zero support

in Waxman and is no more than attorney wishful thinking—Petitioner does not even try to cite Mr. Bertonis in support. Reply, 19-20.

C. Petitioner and Mr. Bertonis Confirm Their Incorrect View that “Physical Layer Probe” Just Means “Probe”

Mr. Bertonis's Reply deposition confirms what Patent Owner argued in the POR (at 14), that he and Petitioner have read the words “physical layer” out of “physical layer probe” entirely. According to Mr. Bertonis, every use of “probe” in the '690 patent means “physical layer probe,” making the two one and the same. Ex. 2008, 204:6-8; *see also id.*, 204:12-19 (testifying that “physical layer probe” just means it travels on the physical layer), 174:14-20 (testifying that the physical layer is a representation of the medium on which the signal or data travels, like the radio waves, the coaxial cable, etc.); *see also* Ex. 2002, 38:24–39:16 (testifying that all probes travel on the physical layer), 41:10-14 (testifying that he generally “[took] ‘physical layer probe’ to have the same meaning as the word ‘probe’ by itself”). But that cannot be. *See Comark Communication, Inc. v. Harris Corp.*, 156 F.3d 1182, 1187 (Fed. Cir. 1998) (“There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.”). The Board should thus reject all challenges to claim 9 for failure to accord black letter law.

IV. DOCSIS 3.1 AND DISTRICT COURT INFRINGEMENT CONTENTIONS ARE IRRELEVANT HERE

Petitioner wastes its breath arguing about DOCSIS 3.1 and mischaracterizing Patent Owner's district court infringement contentions. DOCSIS 3.1 is not prior art, having released May 9, 2018 (Ex. 1051, 3), and thus cannot inform anything about invalidity or a POSITA's views on things at the priority date in 2009. Mr. Bertoni's opinions about DOCSIS 3.1, which underlie Petitioner's positions, also cannot be considered because Mr. Bertoni refused to answer any questions about DOCSIS 3.1 at his first deposition, claiming ignorance about the standard and insisting that "I'm not here to testify on DOCSIS 3.1." Ex. 2002, 132:19-23; *see also id.*, 133:15-20.

Regardless, the positions Patent Owner has taken in litigation about what DOCSIS 3.1 does or does not show is not an issue for the Board. If Petitioner wants to argue that Patent Owner's statements in this proceeding contradict its infringement positions at the district court, the time to do that is back at the district court, and the means to do that is a motion for application of prosecution disclaimer to change the scope of the district court's claim constructions. What matters here is whether Petitioner has met its burden to invalidate the claims, not whether Patent Owner has taken consistent positions in two venues. And on that front, Petitioner falls woefully short.

V. ADDITIONAL DISTINCTIONS OVER WIMAX

A. WiMAX's Ranging Response is not a Probe

For WiMAX, Petitioner argues for the first time that the Ranging Response characterizes the channel because it includes a “Ranging Status” that “indicates whether uplink messages are received within acceptable limits by BS.” Reply at 7–8; *see also* Ex. 1036, ¶ 24 (“The Ranging Response . . . includes the Ranging Status for indicating whether the uplink messages are within acceptable/tolerable timing and power limits”). But Mr. Bertonis does not explain how this characterizes *the channel*. “Ranging Status” is nothing more than what the name implies: a flag that indicates the status *of the ranging procedure*—whether ranging has been successful and whether the process should be continued, aborted, or reattempted. *See* Petition at 17; Ex. 1013, 665 (Ranging Status assigned value of 1=continue, 2=abort, 3=success, or 4=rerange). The Ranging Status therefore relates to the same concept as ranging generally, *i.e.* coordinating packet transmission (including power and timing) to ensure the signal is receivable by the BS. *See* Ex. 2007, ¶ 64.

Finally, Petitioner argues that the Ranging Response is a physical layer probe because it is used to maintain the RF link and to acquire correct timing and power. *See* Reply at 8–9. Petitioner falsely equates *timing* with *signal delay*, and *power* with *attenuation*, so that they can rely on Mr. Holobinko’s testimony that signal delay and attenuation are examples of physical layer attributes. *See id.*; *see also* Ex. 2007, ¶

57. However, Mr. Holobinko directly addressed this point in his deposition, clarifying that these terms mean different things, and that timing and power are *not* physical characteristics of the channel. Ex. 1055, 172:6–20 (“Q. Is power level a characteristic of the channel? A. No. Q. Is timing a characteristic of the channel? A. No.”); *see also* Ex. 2007, ¶ 68 (“ensuring the correct timing and preferred power for transmissions is *setting* of communication parameters for messages, not *characterizing the channel* over which those messages are sent”).

Petitioner relies on a single unsupported statement by Mr. Bertonis that “[a] POSITA would have understood that ‘signal delay’ is a timing related parameter, and that ‘attenuation’ is a power related parameter.” Ex. 1036, ¶ 24. But Mr. Bertonis does not provide any further details, and he makes no effort to rebut the explanation provided by Mr. Holobinko. Regardless, as Mr. Bertonis admitted in his deposition, Signal delay and attenuation are not parameters in the ranging request and ranging response and thus fail to demonstrate how the *ranging response* characterizes the communications channel. Ex. 2008, 220:23-223:1 (agreeing they are “not in the request as a separate field”); *see also id.*, 224:6-25 (agreeing they are “not in the [ranging response] message as spelled out” in the WiMAX standard). Accordingly, Petitioner has not met its burden to show that WiMAX’s Ranging procedure involves a physical layer probe, or a probe more generally.

B. The RNG-RSP “Basic CID” Is Not Specified by the RNG-REQ

Claim 1 requires the parameters in the probe request to “at least specify content payload of the probe.” Ex. 1001, claim 1. Petitioner relies on the “CID” parameter in WiMAX ranging as the alleged “content payload.” Even though Patent Owner showed that the CID parameter is in the *header*—as opposed to the payload—of the RNG-REQ, Petitioner contends that the CID parameter also appears in the payload of the RNG-RSP. Specifically, Petitioner points to the “Basic CID” parameter that appears in the TLV parameters of the RNG-RSP. Reply at 9–11.

However, WiMAX Table 367 plainly states that the “Basic CID” is assigned by the base station (BS) at initial access. Ex. 1013, 666. The BS is the node that *receives* the RNG-REQ and then *transmits* the RNG-RSP. *See* Ex. 2007, ¶ 62. This means that the RNG-REQ does not *specify* the Basic CID for use in the probe response. It is the other way around. The BS assigns the Basic CID for both it and the SS to use; the SS sends a RNG-REQ using that CID; and then the BS sends a RNG-RSP that *may* also use that CID. *See id.* But that “may” is critical. The BS dictates the CID, and it can decide to change the CID from what was transmitted in the RNG-REQ. Mr. Bertonis acknowledges this very point. *See* Ex. 1036, ¶ 33 (admitting that the Basic CID “can be different in some Ranging Responses if the BS decides to change the basic connection”).

Petitioner highlights that the CID in the RNG-REQ and the Basic CID in the RNG-RSP may be the same value, but that does not mean that one has “specif[ied]” the other, as the phrase “at least specify content payload” in the ‘690 patent claims requires. As Mr. Bertonis admitted through an admittedly silly hypothetical about blue shirts, the fact that two things have the same value (such as dictated by coincidence or by a third-party telling both to have that value) is not the same thing as one specifying that value for the other. Ex. 2008, 187:25-188:7; *see also id.*, 188:8-190:1 (refusing to answer further hypotheticals on the matter).

Finally, as Mr. Bertonis admitted in deposition, the Basic CID could be literally any 16-bit value; the RNG-REQ only asks for a value, it doesn’t specify anything about what the value can be. Ex. 2008, 226:6-20, 229:2-7. Therefore, it cannot be said that the RNG-REQ *specifies* a content payload for the response.

C. WiMAX and OFDMA (Claims 11 and 19)

Contrary to Petitioner’s assertion, Petitioner has not “articulated reasons that two Ranging Responses would have been transmitted simultaneously.” *See* Reply at 14–15. At best, Petitioner and Mr. Bertonis have speculated that it *might* have happened. Moreover, now that Petitioner has clarified it is only asserting obviousness-based invalidity of these claims, Petitioner misstates the legal standard. It is not enough for Petitioner to “articulate[] reasons that two Ranging Responses would have been transmitted simultaneously.” *See id.* Petitioner must show that it

would have been *obvious* to a POSITA to incorporate this element into WiMAX / OFDMA. Petitioner's theories fall well short of this standard and instead represent a classic case of hindsight bias.

Moreover, Petitioner's theory is fundamentally unsound and unsupported. As Mr. Bertonis confirmed at deposition, his theory about multiple BS each transmitting a ranging response to a single SS using OFDMA is (supposedly) supported only by pages 50-51, 199-213 of WiMAX. Ex. 2008, 160:24-161:20. But as Mr. Bertonis also admitted, those pages only disclose the fact that one BS can send a RNG-RSP to one SS. *Id.*, 162:20-167:4. That is far from the two-BS-to-one-SS situation envisioned by Petitioner and Mr. Bertonis. And it also directly contradicts the false statement in Reply that "WiMAX teaches multiple BSs each transmitting a Ranging Response to an SS using OFDMA." Reply, 14. When asked, the best Mr. Bertonis could muster is not that such an arrangement is *taught*, only that it is "possible." Ex. 2008, 154:22-156:5, 165:25-166:20. That is not enough under the law.

Finally, Petitioner and Mr. Bertonis fail to appreciate that Zuckerman discloses both OFDMA *and* OFDM, without commenting on which would be more appropriate to use. Ex. 2008, 168:7-12, 168:19-23. OFDM, of course, is different from OFDMA because in OFDM, multiple nodes are always communicating in different time slots and therefore, not simultaneously. *Id.*, 167:5-20, 168:1-6. Petitioner and Mr. Bertonis also cannot overcome this issue—why would a POSITA

be motivated to use OFDMA from Zuckerman instead of OFDM in combination with WiMAX? Neither says, and thus the challenge must fail.

VI. ADDITIONAL DISTINCTIONS OVER WAXMAN

During his deposition, Mr. Bertonis was presented with a hypothetical that matched Waxman's probe request/probe response scheme: "a message going from one node to another that says change to transmission scheme number 2. Now the second node, the one that received the message, sends a message back to the first node in response, and the message says okay." Ex. 2008, 208:1-10. When asked whether that hypothetical would meet the '690 patent claims, specifically step 1(a) of claim 1, Mr. Bertonis couldn't say for sure: "I would say it could or it could not ... [d]epending on how you read the claim." Ex. 2008, 208:1-16. When pressed, he admitted he was not sure "even based on how [he] read the claim." *Id.*, 208:17-22, 208:23-209:15. Shortly thereafter, Mr. Bertonis refused to answer any more hypotheticals. *Id.*, 210:9-21.

Mr. Bertonis's reluctance to say whether that hypothetical—which essentially is Waxman—would meet the claims dooms his opinion that Waxman does. The likely reason why Mr. Bertonis was so reluctant is because Waxman's sending of a new transmission scheme value and an acknowledgement in return is something completely different than what is contemplated by the claims, particularly with

regard to element 1a's "wherein the first plurality of parameters at least specify content payload of the probe."

Petitioner's and Mr. Bertonis's arguments about 802.11 and the probe request and response containing identical SSIDs fails for the same reason as with WiMAX's CID and Basic CID above. Identicality of values is not the touchpoint of a first message "at least specify[ing] content payload" for a second message because two values can be identical due to coincidence or a third source *specifying* that value to the other two. *See* Ex. 2008, 187:25-188:7. Regardless, Petitioner's contention that the SSID would appear in both the probe request frame body and probe response frame body is absent any explanation of how the probe request specifies this value for the probe response. In any event, the SSID is at most an identification of the recipient node, a different claim requirement from "content payload." *See* Ex. 1002 ¶ 343.

VII. ADDITIONAL DISTINCTIONS OVER DOCSIS 2.0

A. Ranging

Petitioner's Reply reveals its DOCSIS 2.0 "ranging" ground as being a mishmash of embodiments that cannot go together. To attempt to save its UCD message being the "probe request" and the Ranging *Request* being a "probe," Petitioner and Mr. Bertonis argue that the UCD message can, in some circumstances, cause ranging to be initiated, through its "Ranging Required" parameter. Reply, 23;

Ex. 1036, ¶ 63. But as Mr. Bertonis admitted, the UCD only triggers a ranging request upon *initial* ranging. Ex. 2008, 230:14-21. Thus, one would think that Petitioner limited its challenge to the initial ranging message exchange. Not true. Just a few paragraphs later, Mr. Bertonis argues (and Petitioner relies on) the RNG-REQ message being “measured to determine the ranging status, which means the Ranging Request characterizes the channel.” Ex. 1036, ¶ 68 (cited at Reply, 23). Yet, as Mr. Bertonis was also forced to admit, the portion of DOCSIS 2.0 he cites in support doesn’t relate to *initial* ranging, but *periodic* ranging—the kind of ranging that happens separate and apart from a UCD message and on a periodic interval. Ex. 2008, 170:22-171:22. Petitioner and Mr. Bertonis cannot have it both ways; either the UCD is a request or the RNG-REQ parameters are measured. Either way, Petitioner’s challenge fails.

Petitioner also puts forth two new arguments to save its DOCSIS 2.0 “ranging” ground: (1) the RNG-REQ is a probe because it provides a downstream channel ID and (2) the RNG-REQ is a probe because it can have a zero value in the “Pending Till Complete” parameter. Reply, 23.

The first argument is similar to the CID argument for WiMAX above, which falls short because Downstream Channel ID is just an identifier chosen by the CMTS at startup. Ex. 2008, 236:10-23. The UCD message thus does not *specify* the Downstream Channel ID because the CMTS has already specified it at startup.

The second argument is contrary to the plain disclosure of DOCSIS 2.0. Rather than “Pending Till Complete” characterizing anything about the channel, that parameter is simply an indication that the parameters *previously sent* have been applied. *See* Ex. 2008, 233:15-236:9. “Pending Till Complete” does not even have anything to do with the RNG-REQ message that Petitioner calls the “probe” because it necessarily relates to messages and their content that have *come before*.

B. Testing

Petitioner has not addressed the fundamental problem with its DOCSIS 2.0 “testing” ground on claim 9 in that DOCSIS 2.0 explicitly states that its test response is an LLC layer-to-LLC layer message, making it incompatible with a “*physical layer* probe.” POR at 45, 51; Ex. 2007, ¶¶ 100, 109. As Mr. Bertonis was forced to admit after some initial pushback, the LLC communications layer is a completely different layer from the physical layer. Ex. 2008, 174:14-175:7. No POSITA would confuse the two. *Id.*, 175:20-25. Thus, Petitioner has no way to meet claim 9 with its DOCSIS 2.0 “testing” ground.

Petitioner does attempt to rely on Mr. Bertonis to fix the problems with its “testing” ground, but Mr. Bertonis simply was not well-informed enough to opine credibly on these matters. For example, Mr. Bertonis disputes Mr. Holobinko’s opinion that a test message can only be used at startup because DOCSIS prohibits test messages after “the first SYNC message” is sent to the CM. Ex. 2007, ¶ 99, 108;

Ex. 1010, 185. Yet Mr. Bertonis admitted at deposition that he does not even know what the SYNC message is; he would be “speculating” about it. Ex. 2008, 241:18-243:6. How can Mr. Bertonis disagree with Mr. Holobinko if he does not even understand the disclosure in DOCSIS 2.0 on which Mr. Holobinko relies?

Mr. Bertonis's testimony also cannot be credited because it so clearly departs from his pre-Reply testimony. In his first deposition, even after being given many opportunities, Mr. Bertonis could only “presume” that the test signal was being used for channel assessment. *See* POR at 53. Now, however, Mr. Bertonis provides *three pages* of reasons that he believes support his opinion, mostly all new and never before disclosed. *See* Ex. 1036, ¶¶ 69-71. Like those “obviousness” arguments from Petitioner on anticipation grounds discussed at the outset, Mr. Bertonis's new opinions should be rejected or, at the very least, given very little weight.

VIII. CONCLUSION

All Grounds of the Petition fail for a multitude of reasons. Accordingly, the Board should find that all challenged claims are valid in view of the asserted art.

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CERTIFICATE OF SERVICE

I hereby certify that on April 11, 2025, a true and correct copy of the foregoing was caused to be served on the following counsel of record for Petitioner by electronic mail at the following addresses:

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