

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: IPR2024-00441

U.S. PATENT NO. 8,792,008

PATENT OWNER'S SUR-REPLY

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Ex. 2001	Joint Claim Construction and Pre-Hearing Statement (Case 2:23-cv-01050-JWH-KES)
Ex. 2002	Kishore Seendripu, <i>At MaxLinear, our drive towards excellence shows in all that we do</i> , The Silicon Review
Ex. 2003	U.S. Patent No. 9,210,362 to Reddy et al.
Ex. 2004	K. Scott Helms, et al., Maxlinear White Paper, entitled "Leveraging Wideband and Full Spectrum Receiver Capabilities to Develop and Utilize Software-based Tools for Remote Spectrum Analysis and Troubleshooting"
Ex. 2005	Excerpts from Deposition of Timothy Gallagher, held on July 19, 2023 in <i>Entropic Communications, LLC v. Charter Communications, Inc.</i> , Case 2:22-cv-00125-JRG
Ex. 2006	Broadcom Corporation, "Full-Band Capture Cable Digital Tuning" White Paper, June 2011
Ex. 2007	DOCSIS® Best Practices and Guidelines: PNM Best Practices: HFC Networks (DOCSIS 3.0)
Ex. 2008	DOCSIS® Best Practices and Guidelines: Proactive Network Maintenance Using Pre-equalization (Ver. 2)
Ex. 2009	Jim Walsh, et al., SCTE White Paper, entitled "The Full (Band) Story: How Smart CPE Will Change HFC Maintenance Forever"
Ex. 2010	<i>Reserved</i>
Ex. 2011	<i>Reserved</i>
Ex. 2012	Diagram used at Mr. Lett's Deposition
Ex. 2013	Declaration of Dr. Samuel H. Russ
Ex. 2014	Deposition Transcript for Mr. David Lett
Ex. 2015	SCTE White Paper, entitled "Leveraging Full Band RF Capture to Improve the Customer Experience and Operational Performance"
Ex. 2016	MaxLinear Press Release regarding Remote Spectrum Monitoring
Ex. 2017	<i>Reserved</i>
Ex. 2018	ANSI/SCTE 06 2019 standard
Ex. 2019	DOCSIS 3.0 Standard (CM-SP-PHYv3.0-I09-101008)
Ex. 2020	SCTE White Paper, entitled "Full Band Capture Revisited"

Exhibit Number	Description
Ex. 2021	Deposition Transcript for Mr. David Lett (April 3, 2025)

I. PETITIONER ARGUED FOR PHYSICAL SUBSTITUTION AND CANNOT CHANGE THAT NOW

The Reply tries to discount the POR's arguments about the physical incompatibility of Kamieniecki and Konstantinos (*e.g.*, Reply, 5), but Grounds A-C of the Petition are based on a physical substitution of elements. As argued in the Petition, “[t]he Kamieniecki-Konstantinos combination *replaces* the IB and OOB tuners in Kamieniecki’s STB [set-top box] with Konstantinos’ multi-channel receiver.” Petition, 32 (emphasis added). By advocating for a physical replacement of components, Petitioner has put at issue whether Konstantinos’s multi-channel receiver is compatible with Kamieniecki’s STB because “petitioner’s contentions . . . define the scope of the litigation all the way from institution through to conclusion.” *Precision Planting, LLC v. Deere & Co.*, IPR2019-01044, 2020 WL 7033873, at *10 (PTAB Nov. 30, 2020) (quoting *SAS Inst., Inc. v. Iancu*, 584 U.S. 357, 366 (2018)).

Because the Petition has framed the challenge as a physical substitution, Petitioner’s citations to *Moultet* and *Facebook* (Reply, 5) cannot save its challenges; “[m]otivation to combine and reasonable expectation of success are properly assessed with reference to the combination as Petitioner has framed it. Doing so is not inconsistent with *Moultet*.” *Precision Planting*, 2020 WL 7033873, at *15

(citing *Samsung Elecs. Co. v. Elm 3DS Innovations, LLC*, 925 F.3d 1373, 1382-83 (Fed. Cir. 2019)).

Because Petitioner has set forth a physical-substitution argument, and because Mr. Lett could not (and still cannot) explain how the proposed combination would be combined in a manner that would render obvious the challenged claims, Petitioner's challenge must fail. *See* POR, 21-25; Ex. 2014, 170:2-171:18. The Reply tries to justify Mr. Lett's deposition testimony in two ways, both of which fail.

First, Petitioner characterizes Mr. Lett's failure as no more than a "refusal to play along." Reply, 3-4. Instead, PO's questions were directed at the exact combination proposed by Petitioner and Mr. Lett; there was no gamesmanship or effort to make Mr. Lett "play" a game. Regardless, to the extent asking questions about Petitioner's own combination is a game to "play," it is Petitioner that has set the "physical substitution of elements" ground rules. Because Mr. Lett was not willing to explain how Petitioner's own proposed combination would work under those rules, Petitioner has no supporting expert testimony on a critical point and cannot meet its burden.

Second, Petitioner argues without expert support that the outputs of the multi-channel receiver "can go anywhere they are desired" and so one output would find its way to Kamieniecki's monitor. Reply, 14-15. This attorney argument runs

contrary to Mr. Lett's testimony, which stated that there are "an infinite number of ways to build a set-top box." Ex. 2021, 12:14-15. Given this, Petitioner needed, and ultimately failed, to explain how or why a POSITA would select, from an infinite number of potential options, the specific arrangement that would allow for the recited concurrent output. That is especially true where Petitioner has also argued that "an MPEG decoder could be in the path between the Konstantinos multi-channel receiver and Kamieniecki monitor." Reply, 4-5. Yet, if true, that would mean that the proposed combination would have a *serial* output (i.e., first to the combination's data processor, then to signal monitor) as opposed to the *concurrent* output required by the challenged claims.

Petitioner's rebuttals as to claims 9 and 17 also fail for similar reasons. Reply, 15-16. At bottom, Petitioner and Mr. Lett have proposed another physical substitution of elements to render obvious claims 9 and 17. Petition, 52-53, 60. When asked to explain the combination, Mr. Lett could not explain how the references would fit together in the proposed combination. POR, 45-47; Ex. 2014, 198:7-201:19, 202:18-22, 203:9-16.

Relevant for all of the challenged claims, "[t]he Federal Circuit has made clear that a satisfactory explanation of 'how the combination of the ... references is supposed to work' is necessary to support 'a conclusion that a relevant skilled artisan would have been motivated to make the combination and reasonably expect success

in doing so.”” *Precision Planting*, 2020 WL 7033873, at *10 (quoting *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 994 (Fed. Cir. 2017)) (emphasis in original). Petitioner and Mr. Lett decided to not offer any explanation, let alone a “satisfactory explanation,” as to how the proposed combination would work.

II. MR. LETT’S NEW MEMORY OF EXPLORER 4200 SHOULD BE GIVEN LITTLE WEIGHT

At Mr. Lett’s deposition on his first declaration, he testified that he did not remember any specific STBs from his time at Scientific-Atlanta or any details about them. Ex. 2014, 20:11-22:3, 24:2-20, 25:1-7, 51:7-52:13. Yet, in his Reply declaration, Mr. Lett testifies extensively about one specific STB from his time at Scientific-Atlanta—the Explorer 4200. Ex. 1032, ¶¶ 6, 10. And Petitioner relies heavily on this new testimony and new evidence. Reply, 6, 8, 13 (citing Ex. 1032, ¶¶ 6 or 10 to support motivation to combine, reasonable expectation of success, and the “analyze said digitized signal” claim element). When questioned at a second deposition, Mr. Lett demonstrated that he does not understand many aspects of the Explorer 4200 important to this case, such as how it utilized DOCSIS. *See* Ex. 2021, 24:16-25:14.

Petitioner’s arguments and Mr. Lett’s testimony on the Explorer 4200 should be given little weight as being litigation-formed and based on nothing more than a cherry-picked document (Ex. 1031). Worse, Mr. Lett’s new knowledge and

testimony about the Explorer 4200 come after PO's opportunity to submit evidence or further expert testimony, thus prejudicing PO. The Board should give these new arguments, new testimony, and new evidence little weight.

III. THE REPLY FAILS TO ADDRESS THE ISSUES IN GROUNDS A-C IDENTIFIED IN THE POR

A. Reasonable Expectation of Success

Petitioner continues to address reasonable expectation of success at only a surface level and thus fails to address the many issues with Petitioner's combination. In particular, the POR addressed two gaps that the less-experienced POSITA (Ex. 2013, ¶¶ 98-99) would be ill-prepared to address: (1) Kamieniecki and Konstantinos receive differently formatted RF input signals and (2) Kamieniecki's STB would have to be redesigned to handle the additional power consumption and interference generated by Konstantinos's multi-channel receiver. POR, 19-26. Petitioner's Reply is not persuasive in response.

As for the different input signals, Petitioner argues only that Kamieniecki "does not limit its OOB to any standard" and "Konstantinos does not limit its data to DOCSIS." Reply, 5-6. There have only been two OOB standards identified in the record of this proceeding (SCTE 55-1 and 55-2), both by Dr. Russ, and both by relying on Exhibit 1026 (also cited by Mr. Lett). Ex. 2013, ¶¶ 58-60, 121-23 (citing Ex. 1026 *passim*). Petitioner's insinuation that there may be other OOB standards

is insufficient to meet Petitioner's burden to demonstrate a reasonable expectation of success at least because Petitioner has not identified what those standards might be, how they might bear on this case, or how those standards would be any different from the two that are part of the record in this proceeding. Thus, on the record of this proceeding, Kamieniecki's STB, and thus the proposed combination, would receive an input signal with a mixture of IB channels—which have a bandwidth of 6 MHz—and OOB channels—which have a bandwidth of 1-2 MHz. POR, 25-26. Yet, on this record, Konstantinos would be designed to comply with DOCSIS, which is a uniform 6 MHz channel bandwidth. Ex. 2013, ¶ 95. Nowhere has Petitioner explained how Konstantinos's channel selectors could select different channel bandwidths within the same input signal or that it was within the skill of a POSITA to reprogram the channel selectors to select different channel bandwidths, both of which would be necessary for Petitioner's combination to have the ability to select any channel within Kamieniecki's input signal (i.e., the received signal).¹

¹ To the extent Petitioner is relying on Mr. Lett to equate OOB and DOCSIS based on the Explorer 4200 (Ex. 1032, ¶ 10), this argument should be given little weight (see Section II, *supra*). Regardless, given Mr. Lett's deposition testimony that he does not understand how the Explorer 4200 utilized DOCSIS (Ex. 2021, 24:16-25:14), the only reliable testimony is from Dr. Russ that OOB and DOCSIS channels

As to the power consumption and interference issues, Petitioner only argues that Konstantinos allegedly already solves these problems. Reply, 2-3. But the cited portions of Konstantinos deal with a different issue than the one raised in the POR. Whereas Konstantinos discloses improvements in power and interferences when compared to other *multi-channel tuning* approaches, it fails to address the issues in Petitioner's combination that would require a POSITA to transition from a single-channel tuning approach (Kamieniecki) to a multi-channel tuning approach (Konstantinos). *See* Ex. 1010, ¶¶ [0012], [0013], [0102], [0104]-[0105].

Petitioner cites Mr. Lett in support (Reply, 3 (citing Ex. 1032, ¶¶ 10-11)), but those citations have their own issues. For one, paragraphs 10 and 11 of Ex. 1032 have nothing to do with this issue. But even if Petitioner meant to cite paragraphs 8 and 9 of Mr. Lett's Reply Declaration, Mr. Lett's opinions in those paragraphs boil down to a claim that power supplies and shielding were commercially available. *See* Ex. 1032, ¶¶ 8-9. Commercial availability does not mean that Petitioner's POSITA, who again would not be trusted with complicated tasks (Ex. 2013, ¶¶ 98-99), would know how to use these components or, more critically, have a reasonable expectation

are "entirely different" and "[g]iven this difference, a POSITA would have to reprogram the channel selectors of Konstantinos's multi-channel receiver to handle the different bandwidths and modulations." Ex. 2013, ¶¶ 59-61, 96.

of success in dealing with the power consumption and interference issues identified in the POR. This is especially true in light of Mr. Lett's testimony admitting he did not know whether more or less power would be needed to digitize a signal spanning 6 MHz as opposed to a signal spanning 1000 MHz. Ex. 2021, 43:5-44:17. If Mr. Lett, with 35 years of experience cannot figure out how to make the combination work, how can the less-experienced POSITA be expected to figure it out?

Petitioner next attacks Dr. Russ's experience and knowledge with the Petitioner's POSITA by arguing his "STB experience ended several years before the priority date." Reply, 2. This argument fails for three reasons. First, Dr. Russ continued to work with the relevant technology as a professor after departing Scientific-Atlanta. Ex. 2013, Appx. A. Second, Petitioner has failed to identify any changes that occurred in the design of STBs between 2007 and the priority date. Third, the POR relies on both Dr. Russ and Mr. Lett, who agree that complex tasks, like what Petitioner's combination requires, would be given to engineers with more experience than the Petitioner's POSITA. POR, 21.

Finally, Petitioner relies heavily on the concept of a POSITA's "ordinary creativity" to address the POR's issues. Reply, 2. Yet "ordinary creativity" is not a universal gap-filler for obviousness challenges and must be based on something more than a bald claim that a POSITA would or could do what is required to make the combination work. PO has systematically shown how the Petitioner's less-

experienced POSITA would not have the skills necessary to do what Petitioner proposes even with “ordinary creativity” in hand. Petitioner cannot appeal to some undefined, generic creativity to carry its burden to show that there is a reasonable expectation of success.

B. A POSITA Would Not Start with Kamieniecki, as Petitioner Proposes

Petitioner's Reply extols Konstantinos's reference to the “evolving market” for multi-channel tuning (Reply, 6-8) but still fails to address the fundamental question underlying Petitioner's combination: given that “evolving market,” why would a POSITA desiring to design a multi-channel receiver start with a single-channel receiver like Kamieniecki? The truth is that no POSITA would start with Kamieniecki, and that is why PO opposes Petitioner's motivation to combine by listing the many reasons *not to* make the proposed combination. POR, 26-30. Contrary to Petitioner's characterization, PO does not “argue[] it would be cheaper to ignore that market demand,” (Reply, 7), instead, PO argues that that market demand still would not lead a POSITA to do what Petitioner proposes.

Three reasons exist why Konstantinos's “evolving market” cannot support a motivation to combine single-channel Kamieniecki with multi-channel Konstantinos: (1) Kamieniecki is sufficient for the applications, for which, it is designed; (2) economic costs and technical complexity weigh against the

combination; and (3) the desire for multi-channel tuning does not provide a motivation to arrange the combination in a manner that would render obvious the challenged claims.

First, Mr. Lett admitted that Kamieniecki is a practical design for its intended application: single-channel tuning. Ex. 2021, 10:6-24. Because Kamieniecki is sufficient for its intended purpose, Petitioner has failed to explain why the evolving market demand would lead a POSITA to look to “sufficient” Kamieniecki to be “improved” with Konstantinos’s multi-channel receiver. In fact, Mr. Lett and Dr. Russ both agree that in 2011 (and even still to this day)² there was market demand for basic, single-tuner STBs as disclosed in Kamieniecki. Ex. 2013, ¶¶ 80-84, 108 (explaining Kamieniecki is a conventional, basic STB that is designed for applications were only a single-channel needs to be processed); Ex. 2021, 12:16-

² Petitioner still supports Motorola’s DCH70 single-tuner STB. To the extent necessary, PO requests that the Board take judicial notice pursuant to Fed. R. Evid. 201 of the following website that shows Petitioner supports the DCH70, which has a single video tuner according to the spec sheet found on the same website: <https://www.xfinity.com/support/articles/cable-box-user-manuals>. The accuracy of Petitioner’s website, and the spec sheet linked therein, cannot reasonably be questioned as shown by Mr. Lett’s deposition testimony. Ex. 2021, 14:4-15:20.

13:6 (explaining that Comcast, the Petitioner, would provide single-tuner STBs to “low-feature customers” in 2011). Thus, the question remains: what is it about Kamieniecki that would need improvement, even today?

Second, both experts also agree that a POSITA with experience in the industry would know that it would not make sense to include unnecessary features because this would drive up costs. Ex. 2013, ¶¶ 75-76; Ex. 2021, 22:11-16 (affirming that “it wouldn’t make sense” to put unnecessary features into a STB “because it would cost more than the feature set needed”). Thus, regardless of whether multi-channel tuning would “improve” Kamieniecki’s STB (Reply, 7), multi-channel tuning would be an unnecessary feature for the applications for which Kamieniecki’s single-tuner STB was designed and would unnecessarily drive up the cost, which would dissuade a POSITA from moving forward with Petitioner’s combination. Even Mr. Lett had to agree with this point. He testified that an MSO “wouldn’t probably pay for the functionality to put a DOCSIS tuner in” if the functionality was not necessary because, for single-tuner STBs, the goal is “make it as cheap as we can possibly make it....” Ex. 2021, 22:1-16.

Petitioner’s remaining arguments as to cost likewise fail. Petitioner’s argument that PO does not provide a cost comparison of alternatives (Reply, 7) is unpersuasive because, if this is even relevant, the Petition is equally guilty as it asserts without any cost comparison of its own that the proposed combination would

reduce costs. *See* Petition, 34. Next, Petitioner is incorrect that PO is arguing the cost alone would dissuade a POSITA (Reply, 7): the POR clearly argued that the economic costs *together with* the technical complexity of redesigning Kamieniecki's set-top box weighs against a motivation to replace Kamieniecki's IB/OOB tuners. POR, 28-30. Finally, Petitioner asserts that Konstantinos "addresses costs," (Reply, 8-9), but none of the cited portions of Konstantinos discuss costs, and Mr. Lett provides no opinions that explain the relationship between efficiency and costs. *Id.*

Third, even accepting Petitioner's motivation based on "market demand," there is still a gap between that "market demand" and the Petitioner's proffered combination to monitor signal quality concurrent with data processing. The Petition recognizes this gap because it provides a separate rationale for concurrent monitoring: a "POSITA would have recognized that Kamieniecki's measurements can be made without waiting for an idle time." Petition, 43. Because Petitioner confirmed that DOCSIS 3.0 does not require concurrent monitoring (Reply, 6), the only support for this rationale is Mr. Lett's gap-filling testimony. *See* Petition, 43 (citing Ex. 1002, ¶ 145).

Because of the gaps in the Petitioner's motivation to combine, Petitioner has failed to provide a motivation for a POSITA to arrange Konstantinos's multi-channel receiver in Kamieniecki's STB in a manner that would render obvious the challenged claims.

C. The Combination Would Render Kamieniecki Inoperable

1. Concurrent Monitoring and Processing

Neither Kamieniecki nor Konstantinos disclose concurrent monitoring and processing as required by the claims, so Petitioner and Mr. Lett have to fill in that gap with expert testimony. Not only that, Petitioner and Mr. Lett have to disregard Kamieniecki's principle of operation of waiting for idle to monitor. Petitioner's rebuttal is merely that a POSITA would disregard Kamieniecki's principle of operation to wait for idle because errors can occur "any time of day." Reply, 9-10. But it was equally true in 2003 when Kamieniecki was filed that errors could occur at "any time of the day," so Petitioner's argument is nothing more than saying a POSITA would second-guess Kamieniecki's principle of operation. Petitioner also has no rebuttal to the fact that Renken, despite having the ability to process multiple channels in parallel, still waits for resources to be idle before conducting signal monitoring. POR, 32. Ultimately, Petitioner forcing Kamieniecki to go against its principle of operation demonstrates the hindsight-bias approach implemented by Mr. Lett and Petitioner. POR, 30-33; Ex. 2013, ¶¶ 112-16. If any doubt remained that hindsight guided the Petitioner, Mr. Lett confirmed this impermissible claim-mapping approach at his most recent deposition. Ex. 2021, 34:13-23.

As for Konstantinos, PO agrees with Petitioner that Konstantinos does not limit the number of channel selectors to a specific number (i.e., N). Reply, 10-11.

But this is beside the point. PO's argument is instead that Konstantinos discloses a 1:1 *ratio* of channel selectors to decoders. POR, 33-34; Ex. 2013, ¶¶ 117-19. Therefore, if the combination is to allow for monitoring at any time of day, the combination must fundamentally alter the 1:1 ratio by either removing a decoder (Ex. 2013, ¶ 118) or adding a channel selector. *Id.*, ¶ 119. Petitioner disagrees by arguing “[n]othing in the claims or Petition requires a dedicated monitoring pathway” (Reply, 10), and that is true but is irrelevant. Whether or not Petitioner understands it, Petitioner's proposed arrangement and combination necessarily requires a dedicated monitoring pathway to work in the way that Petitioner envisions so as to read on the challenged claims. The challenged claims require a “concurrent output of a first portion to a signal monitor and a second portion to a data processor.” Ex. 1001, cl. 1. The only way to create such concurrent output in the proposed combination is to deviate from Konstantinos's 1:1 ratio and provide such a dedicated monitoring pathway. Ex. 2013, ¶ 117. Petitioner's problem is thus twofold. Not only has it failed to propose a combination that has such a dedicated monitoring pathway, it has provided no motivation to depart from Konstantinos's 1:1 ratio to have one.

Finally, Petitioner's attorney argument relying on a single recitation of the word “may” in Konstantinos (Reply, 10-11) cannot overcome the testimony of Dr. Russ, who provides detailed opinions as to why a POSITA would understand that

Konstantinos requires a 1:1 ratio and that deviating from this ratio would fundamentally change Konstantinos. Ex. 2013, ¶¶ 117-19.

2. Reporting Signal Quality Information

Petitioner provides no expert opinions to contradict Dr. Russ's testimony that replacing Kamieniecki's OOB tuner would render Kamieniecki unfit for reporting signal quality information. *Compare* Reply, 11, *with* Ex. 2013, ¶¶ 120-23. Petitioner also does not refute that OOB and DOCSIS are fundamentally different standards that have different channel bandwidths. Ex. 2013, ¶¶ 59-61. Petitioner tries to fill this gap by citing the Petition (Reply, 11 (citing Petition 34-36)) but the cited portions fail to address Dr. Russ's criticism that the proposed combination would not be able to select a 6 MHz channel *and* a 1-2 MHz channel in the same input signal. Being able to select a 6 MHz and a 1-2 MHz channel is necessary because the 1-2 MHz OOB channel is how Kamieniecki's STB receives the prompt to know when to report signal quality information. Ex. 2013, ¶¶ 120-23. Thus, if it cannot receive the prompt, Kamieniecki would not know when to report signal quality information. *Id.*

Petitioner also tries to fill the gap with disparate citations to Konstantinos (Reply, 11), but the fact Konstantinos mentions data channels says nothing as to whether Konstantinos's channel selectors could select a 6 MHz channel *and* a 1-2 MHz channel in the same input signal. In fact, Petitioner's citations support PO's

contention that, if Konstantinos is receiving data, it is using the DOCSIS protocol. Ex. 1010, ¶ [0011] (receive “both TV and **DOCSIS (data)** channels”) (emphasis added). This is critical, especially because Petitioner offers no evidence to refute Dr. Russ’s opinions that DOCSIS is “fundamentally different” than OOB. Ex. 2013, ¶¶ 59-61. These fundamental differences would render Kamieniecki unfit for its intended purpose in the combination. POR, 34-37.

To the extent a POSITA would even consider making Kamieniecki’s upstream reporting work in the combination anyway, that POSITA would essentially have to redesign the cable operator’s headend. As Mr. Lett testified, a cable network is a closed system so the equipment downstream must be compatible with the equipment at the MSO’s headend. *See* Ex. 2021, 26:9-28:9. Thus, if the proposed combination changes the format of the signal being received by the STB, this would potentially force MSOs to upgrade their headends to install the different equipment needed to transmit OOB channels versus DOCSIS channels. Ex. 2013, ¶ 96. That is something far, far beyond the skill of the POSITA proposed by Petitioner.

D. Petitioner’s Reply Creates Even More Issues Regarding Kamieniecki’s Ability to Analyze Digital Signals

Petitioner admits that Kamieniecki receives an analog carrier signal but still contends that Kamieniecki analyzes a digital signal. Reply, 12 (“the received carrier signals are analog”). Petitioner’s arguments are threefold, each wrong.

First, Petitioner argues that the Explorer 4200 utilized DOCSIS (Reply, 12) but that is irrelevant because, much like the analog signals coming into Kamieniecki that may contain MPEG video data, DOCSIS utilizes an analog carrier with digital information carried thereon. Ex. 2013, ¶ 61. Moreover, as discussed in Section II, *supra*, the Board should give very little weight to Petitioner's and Mr. Lett's statements about the Explorer 4200.

Second, Petitioner argues that Kamieniecki has an ADC (Reply, 13), but this argument leads to even further issues with Petitioner's combination in particular as it relates to the alleged location of that ADC in Kamieniecki. As background, Dr. Russ testifies that the IB and OOB tuners of Kamieniecki output an analog channel for "further processing." Ex. 2013, ¶ 128. In other words, that "further processing" occurs after Kamieniecki's tuners and before its monitor. Mr. Lett latches onto this for his opinion about Kamieniecki's alleged ADC: he testifies that Dr. Russ "does not explain why" the ADC cannot be a part of that "further processing" mentioned by Dr. Russ. Ex. 1032, ¶ 18.

The problem is that by placing the ADC after the tuners and before the monitor of Kamieniecki, Petitioner and Mr. Lett would now have two ADCs in their proposed combination: one before the multi-channel selector from Konstantinos (element 204) and one after the tuners (now replaced by the multi-channel receiver of Konstantinos) as part of the "further processing" in Kamieniecki. Nowhere has

Petitioner suggested its POSITA would remove such an ADC from Kamieniecki, or why. Putting aside that Mr. Lett refused to explain how a selected channel travels from the multi-channel receiver to the monitor or the decoder (*see* Section I, *supra*), Petitioner's combination would have the multi-channel receiver output a *digitized signal* to an *analog-to-digital* converter. This is yet another example of Petitioner and Mr. Lett operating at surface level instead of thinking through the physical substitution of elements from Konstantinos into Kamieniecki that they propose.

Finally, Petitioner presents a new combination to address the signal monitor element by relying on Kamieniecki *and* Konstantinos. Reply, 13-14. This is a departure from the Petition, which relied only on Kamieniecki's monitor as rendering obvious claim element 1[C]. Petition, 38-40. 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). Therefore, not only is Petitioner's reliance on *Bradium Technology* inapposite (Reply, 13), it is entirely improper for Petitioner to now rely on Konstantinos's "information extraction processor" to render obvious

claim element 1[C] given this was not in the Petition. The Board should disregard this new *prima facie* argument.

IV. GROUNDS D-E ALSO FAIL

A. Renken Is Not Prior Art

Petitioner attempts to support Renken's priority by arguing that Renken's provisional need only support one claim of Renken. Reply, 17-18. But Petitioner's argument is no longer based on good law (if it ever was). As the Federal Circuit recently held in *In re Riggs*, "the provisional application must also provide written description support for the specific portions of the patent specification identified and relied on" as prior art. 131 F.4th 1377, 1384 (Fed. Cir. 2025). This is the exact argument made in the POR. POR, 49-53. Specifically, Dr. Russ testified that the portions of Renken's provisional cited by Petitioner fail to provide written description support for the CMC being located at the headend because the cited portions do not discuss "sending messages to the headend, any relationship between the CMC and the headend, or any suggestion for the CMC to be located at the headend." Ex. 2013, ¶ 136. Petitioner has failed to address that issue or the controlling legal standard from *In re Riggs*, which makes all of Petitioner's arguments on priority insufficient under the law. Therefore, Renken is not prior art and Grounds D-E fail.

B. Petitioner's Offers a New Argument as to How Renken Renders Obvious "Concurrently Output"

Petitioner's Renken grounds also include impermissible new arguments. Rather than stick with its Petition that identifies Renken's processor 50 alone as the claimed "signal monitor," Petitioner tries to recast the claimed "signal monitor" to now include both Renken's processor *and* Renken's QAM demodulator. Reply, 19.

For Grounds D and E, the Petition clearly identified the MCCM processor as the claimed signal monitor, as does Mr. Lett. Petition, 63; Ex. 1002, ¶ 202. The Petition doubles down on that identification in its analysis of the "concurrently output" element by stating, "a first DDC may select a channel that the *processor (monitor)* desired to be measured and either the DDC *or other downstream components (e.g., QAM Demodulator* or MPEG/DOCSIS Decoder) send data to the monitor as directed by the measurement program..." Petition, 67 (emphasis added). This language not only identifies only the MCCM processor as the claimed signal monitor, it specifically distinguishes the QAM demodulator as separate from the signal monitor by identifying it not as a "monitor" but as an example of "other downstream components" *and* it further characterizes the QAM demodulator not as

the monitor but as a component that “send[s] data to the monitor.” *Id.*³ It would make no sense for the monitor to “send data to” itself.

Yet the Reply argues that Renken satisfies the “signal monitor” of the challenged claims by *both* the MCCM processor *and* the QAM Demodulator of an idle receiver. Reply, 19. Because Petitioner is now rearranging its argument based on Renken, the Board should exclude this argument. *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367-68 (Fed. Cir. 2015).

Focusing on what was actually argued in the Petition, Renken cannot render obvious the “concurrently output” element because the DDCs, whether collectively or individually, cannot concurrently output a selected portion to both a QAM Demodulator (data processor) and the MCCM processor. To the extent the Board considers Petitioner’s citation to “data” (i.e., the pink arrows), Petitioner has failed to explain how data is a portion of the digitized signal. POR, 59 (citing Ex. 2013, ¶

³ The Board in its ID also found the same as Petitioner argued then (but not now): “Petitioner asserts that Renken’s MCCM processor 50 corresponds to the claimed signal monitor and MPEG/DOCSIS decoder 24 corresponds to the claimed data processor.” Paper 8, 35 n. 11. Petitioner did not move the Board for reconsideration to fix that finding, to the extent Petitioner found it incorrect then.

140). Moreover, Petitioner's Reply failed to cite any expert opinions to rebut those of Dr. Russ. Ex. 2013, ¶ 140. Grounds D-E thus fail.

V. OBJECTIVE INDICIA OF NON-OBVIOUSNESS

Petitioner presents no expert testimony on objective indicia, and Petitioner did not cross examine Dr. Russ on his objective indicia opinions. Therefore, Dr. Russ's opinions (Ex. 2013, ¶¶ 141-50) remain unrefuted by anything other than attorney argument, but even then, those attorney arguments are undercut by the deposition testimony of Petitioner's expert, Mr. Lett.

Take Petitioner's argument that none of the benefits of Remote Spectrum Monitoring are attributed to the claimed invention of the '008 Patent because the benefits were known in the prior art, such as using CPE to remotely monitor a network and full spectrum digitization (e.g., MaxLinear's Full-Spectrum Capture). Reply, 24-25. Mr. Lett's deposition testimony supports the exact opposite conclusion: Remote Spectrum Monitoring received significant industry praise because it was the first to resolve long standing problems in the industry. In particular, Mr. Lett testified that monitoring was a well-known problem in the industry. Ex. 2021, 35:25-36:1. Mr. Lett also testified that Kamieniecki supposedly discloses "a need to monitor more channels so that [MSOs] could provide, you know, better service by addressing any particular issues that were seen on those channels and be proactive with customer support." Ex. 2021, 31:18-25. But Mr.

Lett also testified that MSOs could not solve this problem, despite trying, for a “long time before Konstantinos.” *Id.*, 33:1-8. Dr. Russ testified likewise in his declaration: “MSOs struggled to monitor the spectrum throughout their network in a cost-effective manner” because of limitations in the prior art. Ex. 2013, ¶ 142.

If it were true, as Petitioner's attorney argument goes, that the prior art solutions provided the same benefits as Remote Spectrum Monitoring, why then did the industry struggle to solve the monitoring problem, as Mr. Lett testified? And why did the industry later herald Remote Spectrum Monitoring as a “paradigm shift in how cable operators troubleshoot home and network issues in the field”? POR, 63 (quoting Ex. 2016). Given the daylight between Mr. Lett and Petitioner's arguments, both Petitioner's attorneys and Mr. Lett cannot be correct, so either Mr. Lett is wrong that Kamieniecki is emblematic of the industry's search for a way to improve monitoring or Petitioner's attorneys are wrong to say that the prior art provided the same benefits as Remote Spectrum Monitoring.

Petitioner's attorneys also try to create confusion by arguing that the exhibits submitted with the POR praise Full-Band Capture, not Remote Spectrum Monitoring. Reply, 24-25. Dr. Russ addressed this terminology in his declaration: the term Remote Spectrum Monitoring—developed by MaxLinear and implemented using the claimed invention of the '008 Patent—was used interchangeably with the term Full-Band Capture by MSOs. POR, 63 n. 1 (citing Ex. 2013, ¶ 144). Petitioner

submits no evidence to contradict that the terms are interchangeable. Therefore, when exhibits use the term “Full-Band Capture” to refer to a customer premises equipment’s (CPE) ability to digitize an entire spectrum and then report measurements without interrupting service, the exhibits are discussing Remote Spectrum Monitoring (not, e.g., MaxLinear’s Full-Spectrum Capture). POR, 62-65.

Finally, Petitioner tries to attack PO’s nexus evidence by arguing that PO allegedly failed to identify a nexus between Remote Spectrum Monitoring and “reporting to the source of the received signal” element recited in claim 1. Reply, 25-26. This argument is unpersuasive as it is predicated on a hyper technical (and incorrect) reading of the POR that loses the forest for the trees. The POR clearly stated, with support from Dr. Russ, that two of the required elements for Remote Spectrum Monitoring were “a spectrum analyzer” and “a component that reports any measurements.” POR, 65. Subsequently, the POR says that these “two requirements are met by the recited signal monitor, which is ‘operable to . . . report said determined characteristic to a source of said received signal.’” POR, 66. Therefore, PO has proven a nexus between the claims of the ’008 Patent and Remote Spectrum Monitoring, which was the subject of significant industry praise.

VI. CONCLUSION

The Petition has again failed to carry its burden to prove the challenged claims of the ’008 Patent are obvious in light of the asserted prior art. Therefore, the Board

should find all the challenged claims patentable.

Dated: April 18, 2025

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Certification of Word Count Under 37 C.F.R. § 42.24(d)

The undersigned hereby certifies that the foregoing contains 5,503 words according to the word count of the word-processing software used to prepare the foregoing.

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CERTIFICATE OF SERVICE

I hereby certify that on April 18, 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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