

UNITED STATES INTERNATIONAL TRADE COMMISSION

Washington, D.C.

In the Matter of

**CERTAIN ELECTRONIC DEVICES AND
SEMICONDUCTOR DEVICES HAVING
WIRELESS COMMUNICATION
CAPABILITIES AND COMPONENTS
THEREOF**

Inv. No. 337-TA-1367

**ORDER NO. 42: DENYING RESPONDENTS' MOTION FOR SUMMARY
DETERMINATION OF INVALIDITY OF ASSERTED CLAIMS OF
U.S. PATENT NO. RE48,629**

(March 25, 2024)

I. INTRODUCTION

On February 28, 2024, Respondents NXP Semiconductors N.V., NXP USA Inc., MediaTek, Inc., MediaTek USA Inc., Laird Connectivity LLC,¹ ASUSTeK Computer Inc., and ASUS Computer International (collectively, "Respondents") moved (Mot. Dkt. 1367-028) for summary determination of invalidity of U.S. Patent No. RE48,629 ("the '629 patent"). EDIS Doc. ID 815066 ("Mot.").² On March 8, 2024, Complainant Bell Northern Research, LLC ("BNR") filed an opposition to Respondents' motion. EDIS Doc. ID 815786 ("BNR Br."). On March 8, 2024, Staff filed a response opposing Respondents' motion. EDIS Doc. ID 815789 ("Staff Br.>").

For the reasons set forth below, Respondents' motion is denied.

¹ Laird Connectivity LLC has since been terminated from the investigation. Order No. 37 (Feb. 27, 2024).

² I granted Respondents' motion for leave to file a second motion for summary determination on February 27, 2024. Order No. 38 (Feb. 27, 2024).

II. LEGAL STANDARD

A. Summary Determination

Summary determination is appropriate when there is no genuine issue as to any material fact and the moving party is entitled to a determination as a matter of law. *See* 19 C.F.R. § 210.18. “The determination sought by the moving party shall be rendered if pleadings and any depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a summary determination as a matter of law.” *Id.* at § 210.18(b). In determining whether there is a genuine issue of material fact, “the evidence must be viewed in the light most favorable to the party opposing the motion with doubts resolved in favor of the nonmovant.” *Crown Operations Int’l, Ltd. v. Solutia, Inc.*, 289 F.3d 1367, 1374 (Fed. Cir. 2002) (citations omitted).

B. Prohibition on Broadening Reissues

“No reissued patent shall be granted enlarging the scope of the claims of the original patent unless applied for within two years from the grant of the original patent.” 35 U.S.C. § 251(d).³ “It is well settled that a claim is broadened, so far as the question of right to reissue is concerned, if it is so changed as to bring within its scope any structure which was not within the scope of the original claim. In other words, a claim is broadened if it is broader in any respect than the original claim, even though it may be narrowed in other respects.” *In re Rogoff*, 261 F.2d 601, 603-04 (C.C.P.A. 1958); *see also In re Bennett*, 766 F.2d 524, 525-26 (Fed. Cir. 1985) (en banc) (citing *Rogoff*). In other words, a claim is broader “if it contains within its scope any conceivable apparatus or process which would not have infringed the original patent.” *Tillotson, Ltd. v. Walbro Corp.*,

³ There are no substantive differences between pre-AIA and AIA 35 U.S.C. § 251; the only difference was the addition of paragraph letters and titles. *See Leahy-Smith America Invents Act* § 20(d)(4), Pub. L. 112-29, 125 Stat. 284, 333-34 (2011).

831 F.2d 1033, 1037 n.2 (Fed. Cir. 1987). While a change in claim scope is not permitted, a patentee may “correct[] . . . the claim to be consistent with the disclosure of the specification.” *Forest Labs., Inc. v. Ivax Pharms., Inc.*, 501 F.3d 1263, 1271 (Fed. Cir. 2007) (holding that a change in the optical sign of an enantiomer of an intermediate in a claim covering a method of manufacturing a chemical compound was a permissible correction rather than a change in claim scope); *see also id.* at 1270 (“The question before us is whether the change effected in the reissue application here broadened the scope of claim 11 or merely clarified or corrected the original claim.”).

“Whether amendments made during reissue enlarge the scope of the claim, and therefore violate § 251, is a matter of claim construction[.]” *ArcelorMittal France v. AK Steel Corp.*, 786 F.3d 885, 888 (Fed. Cir. 2015). Whether claims are broadened is considered on a claim-by-claim basis. *Id.* at 890-91.

III. BACKGROUND AND UNDISPUTED FACTS

The Commission instituted this investigation based on, among other things, claims of infringement of claims 1, 8-11, 13, 14, 19, 20, and 27 of the '629 patent. EDIS Doc. ID 800718 at 2. The '629 patent is a reissue of U.S. Patent No. 7,990,842 (“the '842 patent”). Mot. Ex. A (hereinafter, “'629 patent”) at cover. The '842 patent issued on August 2, 2011. *Id.* The application for a reissue of the '842 patent was filed on November 18, 2019, which is more than two years after the grant of the '842 patent. *Id.* In relevant part, the reissue patent amended asserted claim 1 to add the final two limitations, which are italicized below:

1. A wireless communications device, comprising:
a signal generator that generates an extended long training sequence; and
an Inverse Fourier Transformer operatively coupled to the signal generator,

wherein the Inverse Fourier Transformer processes the extended long training sequence from the signal generator and provides an optimal extended long training sequence with a minimal peak-to-average ratio, and

wherein at least the optimal extended long training sequence is carried by a greater number of subcarriers than a standard wireless networking configuration for an Orthogonal Frequency Division Multiplexing scheme,

wherein the optimal extended long training sequence is carried by exactly 56 active sub-carriers, and

wherein the optimal extended long training sequence is represented by encodings for indexed sub-carriers -28 to $+28$, excluding indexed sub-carrier 0 which is set to zero, as follows:

<i>Sub-carrier</i>	<i>-28</i>	<i>-27</i>	<i>-26</i>	<i>-25</i>	<i>-24</i>	<i>-23</i>	<i>-22</i>
<i>Encoding</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>-14</i>	<i>-13</i>	<i>-12</i>	<i>-11</i>	<i>-10</i>	<i>-9</i>	<i>-8</i>
<i>Encoding</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>	<i>+1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>
<i>Encoding</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>	<i>+1</i>	<i>+1</i>	<i>-1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>15</i>	<i>16</i>	<i>17</i>	<i>18</i>	<i>19</i>	<i>20</i>	<i>21</i>
<i>Encoding</i>	<i>+1</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>	<i>+1</i>	<i>-1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>-21</i>	<i>-20</i>	<i>-19</i>	<i>-18</i>	<i>-17</i>	<i>-16</i>	<i>-15</i>
<i>Encoding</i>	<i>+1</i>	<i>-1</i>	<i>+1</i>	<i>-1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>-7</i>	<i>-6</i>	<i>-5</i>	<i>-4</i>	<i>-3</i>	<i>-2</i>	<i>-1</i>
<i>Encoding</i>	<i>-1</i>	<i>+1</i>	<i>-1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>
<i>Sub-carrier</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>	<i>13</i>	<i>14</i>
<i>Encoding</i>	<i>-1</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>	<i>-1</i>	<i>-1</i>	<i>-1</i>
<i>Sub-carrier</i>	<i>22</i>	<i>23</i>	<i>24</i>	<i>25</i>	<i>26</i>	<i>27</i>	<i>28</i>
<i>Encoding</i>	<i>-1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>+1</i>	<i>-1</i>	<i>-1</i>

'629 patent at cl. 1. The '629 patent also cancelled claims 2-3 and 5-7. Claims 2, 3, and 5 recited:

2. The wireless communications device according to claim 1, wherein at least the optimal extended long training sequence is carried by at least 56 active sub-carriers.
3. The wireless communications device according to claim 2, wherein the at least 56 active sub-carriers correspond to at least indexed sub-carriers -28 to $+28$.

5. The wireless communications device according to claim 1, wherein the optimal extended long training sequence is carried by at least 63 active sub-carriers.

Id. at cl. 5.

The long training sequence set forth in claim 1 of the '629 patent is identical to the one disclosed in Figure 4 of the '629 patent. *See id.* at Fig. 4. The specification of the '629 patent states:

FIG. 4 illustrates the long training sequence with a minimum peak-to-average power ratio that is used in 56 active sub-carriers. Out of the 16 possibilities for the four new sub-carrier positions, the sequence illustrated in FIG. 4 has the minimum peak-to-average power ratio, i.e., a peak-to-average power ratio of 3.6 dB.

Id. at 5:30-35. Respondents' expert, Dr. Michael Buehrer, calculated the peak-to-average power ratio ("PAPR") for each of the 16 possibilities for the four new sub-carrier positions and determined that the sequence shown in Figure 4 and claimed in claim 1 has the fourth-lowest PAPR out of the 16 possibilities. Mot. Ex. G ¶¶ 32-39 (calculating PAPR for each of the 16 combinations). Dr. Buehrer's calculations showed that the sequence in Figure 4 has a PAPR of approximately 3.6 dB. *Id.* ¶ 32. BNR's expert, Dr. Todor Cooklev, did not dispute Dr. Buehrer's calculation of PAPR. Mot. Ex. E ¶¶ 647-656; Mot. Ex. F at 39:7-15, 40:1-41:1.

During claim construction, Respondents argued that the '629 patent was indefinite. *See* Order No. 29 at 36-40 (Jan. 23, 2024). I rejected this argument, adopting Staff's proposal that the term "an optimal extended long training sequence with a minimal peak-to-average ratio" did not need to be construed because it was defined by the claim. *Id.* at 40. As I explained, claim 1 of the '629 patent defined the claimed optimal extended long training sequence with objective boundaries because it defined encodings for each of the 56 subcarriers. I also rejected BNR's proposed interpretation of "optimal" as unsupported by the record. *Id.*

The '842 patent was not construed during claim construction in this investigation. During a prior litigation over the '842 patent, BNR argued that the term "optimal extended long training

sequence” in the ’842 patent was the one with a minimum PAPR. Mot. Ex. C at 8-9. The district court in that litigation construed the term “optimal extended long training sequence” to mean “an extended long training sequence with minimal peak to average ratio, i.e., a peak to power ratio of 3.6dB, using more subcarriers than the standard at the time the patent was filed.” *Bell Northern Research, LLC v. Coolpad Techs., Inc.*, No. 18-CV-1783-CAB-BLM, 2019 WL 3766688, at *8 (S.D. Cal. Aug. 9, 2019) (footnote omitted).

IV. DISCUSSION

Respondents argue that the asserted claims of the ’842 patent are invalid as a broadening reissue because they allegedly cover subject matter that was not covered by the claims of the ’842 patent. Mot. at 1. Resolving Respondents’ motion requires answering one question: did the ’842 patent claim the extended long training sequence identified in Figure 4 and claimed in claim 1 of the ’629 patent such that a claim to that extended long training sequence in the ’629 patent reissue would not be broadening. *See* Mot. at 7. Respondents argue that it did not, and thus the ’629 patent is “broadened” by claiming something that did not fall within the scope of the ’842 patent. Mot. at 7-10. BNR argues that the ’842 patent did claim this sequence, and thus there was no broadening reissue. BNR Br. at 13-18. Staff also argues that the claims of ’842 patent claimed this sequence. Staff Br. at 7-12. As I explain below, as a matter of claim construction, the ’842 patent encompassed the extended long training sequence identified in Figure 4 and claimed in claim 1 of the ’629 patent. Accordingly, the reissue was not broadening.

As an initial matter, I disagree with BNR’s argument that Respondents are improperly attempting to reargue claim construction. BNR Br. at 9-13. Although I construed “an optimal extended long training sequence with a minimal peak-to-average ratio” in the context of the ’629 patent to be defined by the claim, that was limited to the ’629 patent. No party presented the

construction of this term in the '842 patent until this motion, so there is no “law of the case” as to the meaning of this term in the context of the '842 patent.

Although I did not resolve this issue during claim construction, Respondents' arguments are largely identical to their claim construction arguments. Mot. at 7-10; *see also* EDIS Doc. ID 803191 (Respondents' Claim Construction Brief regarding Indefiniteness) at 14-19. Respondents argue that “optimal” must mean the best, or most favorable, and that this encompasses the sequence with the lowest PAPR. Mot. at 7-10. Respondents admit that the specifications of the '842 and '629 patents state that the encoding sequence of Figure 4 “has the minimum peak-to-average power ratio, i.e., a peak-to-average power ratio of 3.6 dB.” *Id.* at 8-9. But they argue that a person of ordinary skill in the art would recognize this was an error. *Id.* As Respondents' undisputed evidence shows, it does not have the lowest PAPR, but only has the fourth-lowest PAPR out of the 16 sequences. Mot. Ex. G ¶¶ 32-40. Dr. Buehrer's calculations confirmed that the sequence in Figure 4 does have a PAPR of approximately 3.6 dB as stated in the specification of the '842 and '629 patents. *Id.* ¶ 32.

As Staff persuasively argues, this extrinsic evidence is inconsistent with and contradicts the intrinsic evidence. Staff Br. at 7-10. The specification “is the single best guide to the meaning of a disputed term.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (en banc) (cleaned up). The specification discloses two embodiments, one with 56 sub-carriers (Figure 4) and one with 63 sub-carriers (Figure 5). '629 patent at 5:5-7, 5:30-41; Staff Br. at 9. Respondents' expert agrees that the only embodiment disclosed with 56 subcarriers is Figure 4. Mot. Ex. G ¶ 49. Respondents' construction would exclude a preferred embodiment not just from claim 1, but also from claims 2 and 3, which are limited to embodiments with 56 subcarriers. Claims are not ordinarily interpreted to exclude embodiments disclosed in the specification, absent disclaimer.

Oatey Co. v. IPS Corp., 514 F.3d 1271, 1276-77 (citing cases). Respondents did not argue that there was any disclaimer of Figure 4. And the specification shows that in the context of the patent, the sequence disclosed in Figure 4 is considered “an optimal extended long training sequence with a minimal peak-to-average ratio[.]” That is because the ’842 and ’629 patents state that Figure 4 has the minimum PAPR. ’629 patent at 5:30-35, 5:59-62. Respondents’ later-arising extrinsic evidence contradicts the intrinsic evidence and cannot be used to change the meaning of the ’842 patent. *See Phillips*, 415 F.3d at 1318-19. As a matter of claim construction, the term “an optimal extended long training sequence with a minimal peak-to-average ratio” in the ’842 patent encompasses Figure 4.

Because at least claim 1 of the ’842 patent encompasses the sequence of Figure 4 and claimed in claim 1 of the ’629 patent, the ’629 patent is not a broadening reissue. Accordingly, Respondents have not established that they are entitled to a summary determination that the ’629 patent is invalid for violation of 35 U.S.C. § 251(d).

V. CONCLUSION

For the reasons set forth above, Respondents’ motion is denied.

* * *

This order has been issued with a confidential designation, and within seven days of the date of this document, the parties shall submit a joint statement as to whether or not they seek to have any portion of this document deleted from the public version. If the parties do seek to have portions of this document deleted from the public version, they must submit a single proposed public version of this order with any proposed redactions in the manner specified by Ground Rule 1.5. To the extent possible, the proposed redactions should be made electronically, in a PDF of the issued order, using the “Redact Tool” within Adobe Acrobat, wherein the proposed redactions are

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submitted as “marked” but not yet “applied.” The submission shall be made by email to Moore1367@usitc.gov and need not be filed with the Commission Secretary.

SO ORDERED.



Bryan F. Moore
Administrative Law Judge