

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS AMERICA, INC.,
SAMSUNG ELECTRONICS CO., LTD.,
Petitioners,

v.

COLLISION COMMUNICATIONS, INC.,
Patent Owner.

Case No. IPR2024-01249
U.S. Patent No. 6,947,505

**PATENT OWNER'S PRELIMINARY RESPONSE
PURSUANT TO 37 C.F.R. § 42.107(a)**

TABLE OF CONTENTS

I.	Introduction.....	1
II.	Wireless Communication Background.....	3
	A. Wireless Channels	3
	B. Detectors.....	5
	C. Parameter Estimation	5
	D. Prior Art Parameter Estimation Approaches.....	6
III.	The '505 Patent's "Parameter Tracking Unit"	7
	A. Initial Parameter Tracking.....	9
	B. Training Sequences, Training Sequence Recreation 60, Training Sequence Window 74, And Summing Junction 72.....	11
	C. Averaging	16
IV.	The Petition Should Be Denied Because Each Asserted Ground Fails To Establish The Required Reasonable Likelihood Of Success	17
	A. All Asserted Claims Require The 'Means'	19
	B. Construction Of The Claimed Means	19
	1. Petitioner Concedes That The Claimed Means Should Be Construed Under 35 U.S.C. § 112, ¶ 6	19
	2. Petitioner Concedes That The Corresponding Structure Is The "parameter tracking unit" Described In The '505 Patent.....	20
	C. Each Ground Fails To Identify The Described "parameter tracking unit"	24
V.	The <i>Fintiv</i> Factors Heavily Favor Discretionary Denial Of Institution Under § 314(A).....	25

A.	Factor 1: Whether a stay exists or is likely to be granted if a proceeding is instituted.....	25
B.	Factor 2: Proximity of the court’s trial date to the Board’s projected statutory deadline	26
C.	Factor 3: Investment in the parallel proceeding by the court and parties	28
D.	Factor 4: Overlap between issues raised in the petition and in the parallel proceeding	29
E.	Factor 5: Whether the petitioner and the defendant in the parallel proceeding are the same party.....	30
F.	Factor 6: Other circumstances that impact the Board’s exercise of discretion, including the merits / Compelling Merits	30
VI.	Conclusion	31

TABLE OF AUTHORITIES

Page(s)

Federal Cases

<i>Apple Inc. v. Fintiv, Inc.</i> , IPR2020- 00019, Paper 11 (PTAB Mar. 20, 2020)	<i>passim</i>
<i>Comcast Cable Communications, LLC v. Touchstream Technologies, Inc.</i> , IPR2024-00324, Paper 13 (PTAB July 24, 2024)	27, 29, 30
<i>Sotera Wireless, Inc. v. Masimo Corp.</i> , IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020)	30
<i>Verizon Bus. Network Servs. LLC v. Huawei Techs. Co. Ltd.</i> , IPR2020-01292, Paper 13 (PTAB Jan. 25, 2021)	28
<i>Williamson v. Citrix Online, LLC</i> , 792 F.3d 1339 (Fed. Cir. 2015)	19, 20

TABLE OF EXHIBITS

Exhibit	Description
2001	Declaration of Dr. Giuseppe Caire
2002	CV of Dr. Giuseppe Caire
2003	U. Madhow, <i>Fundamentals of Digital Communication</i> , Cambridge University Press 2008
2004	R.G. Gallager, <i>Principles of Digital Communication</i> , Cambridge University Press 2008
2005	RESERVED
2006	RESERVED
2007	Judge Rodney Gilstrap Motion to Stay Pending IPR Statistics
2008	June 30, 2024 Federal District Court Case Management Statistics
2009	<i>Collision Communications, Inc. v. Samsung Electronics Co., Ltd.</i> , No. 23-cv-00587 (E.D. Tex.) Docket
2010	<i>Collision Communications, Inc. v. Samsung Electronics Co., Ltd.</i> , No. 23-cv-00587 (E.D. Tex.) Scheduling Order

I. Introduction

The Board should deny institution because (1) neither Petition Ground 1 nor Ground 2 establishes the required reasonable likelihood of success; and (2) the ongoing proceedings establish that institution should be discretionally denied under *Fintiv*.

Lack of Reasonable Likelihood of Success: All of the challenged claims are directed to a “parameter estimation unit” that includes a “means . . . for providing uninterrupted estimates of the channel transfer function parameters on a real time basis” (E.g., EX1001 at claims 1 and 9).

Petitioner concedes that this means element should be construed as means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. Petitioner also concedes that this means-plus-function limitation’s corresponding structure is the “parameter tracking unit” described in the patent, including (as explained below) that unit’s averaging, Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72.

But despite these admissions, the Petition does not even attempt to identify the disclosed and admittedly required “parameter tracking unit.”

Each Ground relies solely on the *Lilleberg* reference as supposedly disclosing the required “parameter tracking unit,” but the Petition provides no support for this conclusory allegation—the Petition simply asserts that *Lilleberg*

discloses the “parameter tracking unit” described in the ’505 patent, without saying or showing how.

For example, although the Petition admits that the ’505 patent describes the “parameter tracking unit” as including and requiring its Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72, the Petition does not allege that any of these components—much less all of them—are disclosed in *Lilleberg*. It cannot because *Lilleberg* is silent to such features; indeed, *Lilleberg* does not even mention training sequences.

Likewise, although the ’505 patent describes the disclosed “parameter tracking unit” as averaging parameter estimates in real time—and the Petition cites to that description as describing the claimed parameter tracking unit—the Petition does not even allege, much less prove that the purported *Lilleberg* parameter tracking unit features such averaging.

For any and all of these reasons, the Petition fails to show the required reasonable likelihood of success under any asserted Ground, and the Petition should be denied.

Discretionary Fintiv Denial: The *Fintiv* factors heavily weigh in favor of discretionary denial. In an attempt to characterize every factor as either neutral or favoring institution, the Petition is rife with conclusory statements and misapplications of controlling PTAB precedent. Under the appropriate legal

standards—and considering the totality of the record evidence—on balance, the *Fintiv* factors support discretionary denial of institution.

II. Wireless Communication Background

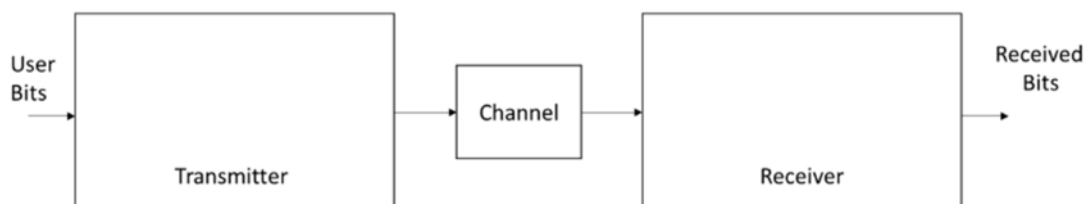
The challenged claims generally concern wireless communication systems with multiple signals so that the different signals interfere with one another. More specifically, the claims are directed to improved “parameter estimation,” which is to help separate one signal from other interfering signals.

To provide context for the claimed subject matter and Samsung’s Petition, the following brief background addresses the following topics:

- wireless channels;
- detectors;
- parameter estimation; and
- prior art parameter estimation approaches.

A. Wireless Channels

A wireless communications system typically includes a transmitter that sends information to a receiver over a wireless channel. (EX2001 at 16; EX2003 at 2-4; EX2004 at 1-5, 95, 181-183, 208-209).



As illustrated in the above overview, information in the form of bits (sequences of 0s and 1s) is input to the transmitter, which first converts those bits into a high-frequency wave signal and then transmits that signal over the wireless channel to the receiver. (EX2001 at 17; EX2003 at 2-4; EX2004 at 1-5, 95, 181-183, 208-209).

This wireless channel is the medium through which the signal is transmitted. (EX2001 at 18). For example, in a wireless cell phone communication, the channel could be affected by the relay towers used to transmit the waves and the physical spaces between those towers, including all buildings and other surfaces that may reflect, refract, or absorb parts of the travelling waves. (EX2001 at 18).

By the channel's very nature, as the electromagnetic wave signal passes through the channel, noise is introduced and information can be lost or corrupted. (EX2001 at 19; EX2003 at 2-4; EX2004 at 1-5, 95, 181-183, 208-209).

Thus, when a receiver receives the electromagnetic signal and attempts to convert it back into bits, the noise must be accounted for and can affect the accuracy of the conversion and reproduction of the original signal. (EX2001 at 20; EX2003 at 2-4; EX2004 at 1-5, 95, 181-183, 208-209).

B. Detectors

Each receiver includes a “detector” that tries to recover the desired transmitted signal. A detector can fall into two categories: (1) single-user detectors or (2) multi-user detectors. (EX2001 at 21).

Regardless of the number of users or interferers, the goal of a single-user detector is to recover the signal from only a single user. (EX2001 at 22). Accordingly, instead of attempting to recover all signals from all users, a single-user detector uses algorithm that focuses on the signal from just one user and treats all other user signals as noise. (EX2001 at 22).

In contrast, the goal of a multi-user detector is to recover signals from two or more users. (EX2001 at 23). Thus, instead of treating and discarding the other user’s signals as noise, a multi-user detector uses an algorithm designed to detect each such signal. (EX2001 at 23).

C. Parameter Estimation

Parameter estimation is a technique used by detectors to help isolate one signal from other interfering signals. (EX2001 at 24). Generally, this technique derives “parameters” which can distinguish the characteristics of each signal regardless of the fact that the signals exist in the same frequency band at the same time. (EX2001 at 24).

Such individual signal parameters can include the received power, the phase, the timing offset, frequency offset, and the structure of multipath replicas. (EX2001 at 25).

However, prior art approaches to parameter estimation struggle where these parameters are constantly changing. (EX2001 at 26). In the mobile phone setting, for example, the parameters can change with every transmission burst. (EX2001 at 26).

These parameter changes over time can be further magnified by variations in the physical environment in and from which a signal is sent. (EX2001 at 27). To again use mobile phones as the example, mobile phones are just that, mobile. (EX2001 at 27). As a result, the location from which they are communicating with a base station can change drastically over time, which again significantly affects signal parameters, including the channel transfer functions. (EX2001 at 27).

D. Prior Art Parameter Estimation Approaches

Prior art approaches to parameter estimation do not adequately account for and address the dynamic nature of the signal parameters and channel transfer functions. (EX2001 at 28). The parameter tracking of prior art systems may have blanks or blackout periods during which some of the simultaneously occurring signals are being ignored or are not being tracked due to the serial nature of the calculation. (EX1001 at 1:53-57; EX2001 at 28). Blank periods or incorrect values

of parameters lead to the inability to separate signals, which causes loss of interfering users' information bit sequences. (EX1001 at 3:5-10; EX2001 at 28).

This problem is exacerbated in cellular environments where power level adjustments can be made as often as 800 times a second. (EX1001 at 1:63-67; EX2001 at 29). Not only does this make parameter estimation (and channel estimation) much more difficult, but this also results in invalid parameter estimations due to the power level change at the handset. (EX1001 at 1:65-2:2; EX2001 at 29).

As such, prior art systems are not adequate for shared traffic channels with multiple interfering signals in which power level adjustments are frequent. (EX1101 at 1:53-57; EX2001 at 30).

III. The '505 Patent's "Parameter Tracking Unit"

In light of the foregoing issues, there was an unmet need for parameter estimation that could reflect what is happening in a real-world scenario and do so in real time. (EX1001 at 5:40-49). The '505 patent discloses and claims just such a parameter estimation unit, one that utilizes an inventive and improved "parameter tracking unit" that allows for parameters to be initially calculated and then consistently updated as they change over time.

An example of this parameter tracking unit is outlined in blue in the Petitions' following annotated Figure 3 from the patent:

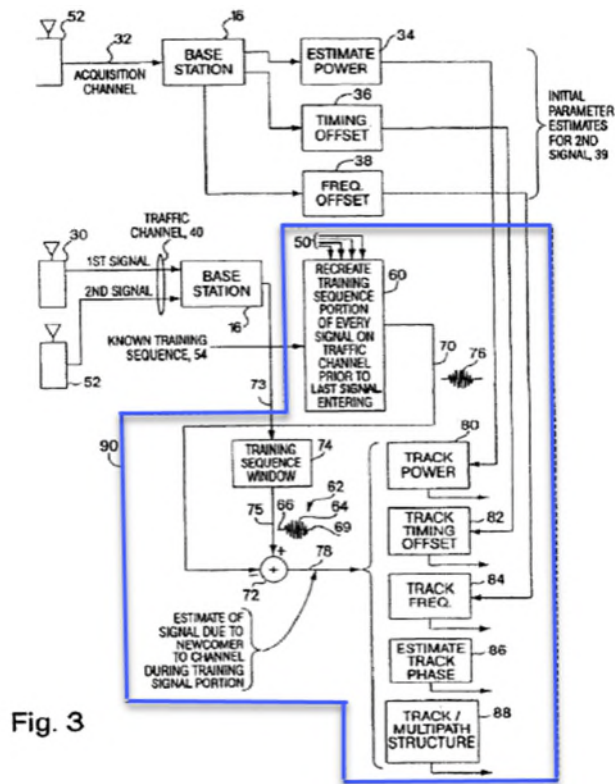


Fig. 3

(Pet. at 21; EX1001 at 7:55-59, Fig. 3).

For purposes of this response, three key aspects of this claimed parameter tracking unit are:

(1) tracking a first signal's parameters (e.g., its power, timing offset, frequency offset, and phase);

(2) isolating, estimating, and tracking those parameters for each new signal (e.g., each signal to be tracked) in the channel using training sequences, training sequence recreation 60, training sequence window 74, and summing junction 72; and

(3) updating and tracking each signal's estimated parameters in real time by averaging.

A. Initial Parameter Tracking

The '505 patent discloses and claims a "parameter estimation unit" that comprises an inventive and improved "parameter tracking unit." For each signal in a channel, the "parameter tracking unit" tracks the signal's (1) power, (2) timing offset, (3) frequency offset, (4) phase, and (5) multipath structure. (*E.g.*, EX1001 at 5:28-33, 6:4-22, 7:22-29, 7:46-8:6). Collectively, these parameters are the "channel transfer function parameters." (*E.g.*, EX1001 at 1:24-32, 5:21-33).

When a receiver having this parameter tracking unit initially receives a first signal, it estimates certain parameters of that first signal, namely the signal's power, timing offset, frequency offset, and multipath structure. (*E.g.*, EX1001 at 5:28-33, 5:55-63).

The "parameter tracking unit" then begins tracking these parameters, using the parameter' tracking algorithms, including its power tracking algorithm, timing offset tracking algorithm, frequency tracking algorithm, and multipath tracking algorithm. These algorithms are respectively identified at elements 80, 82, 84, and 88 of Petitioner's annotated Figure 3:

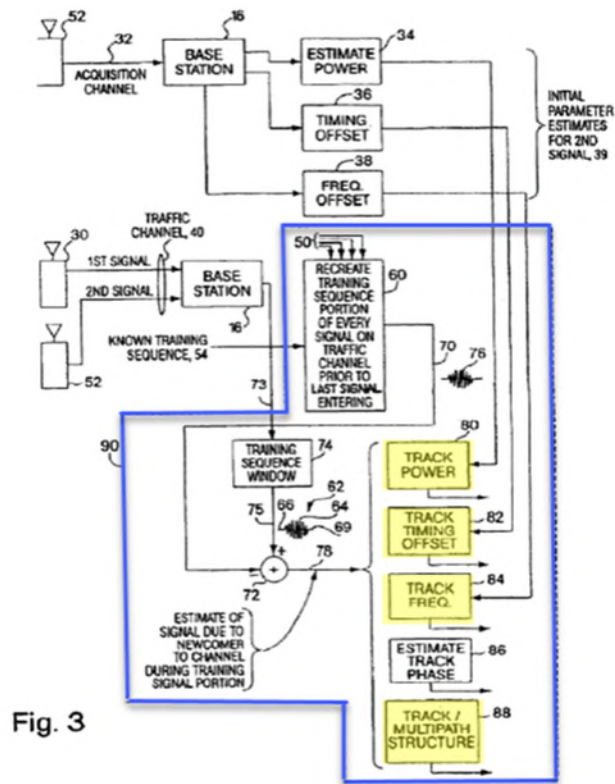


Fig. 3

(Pet. at 21 (highlighting added); EX1001 at 6:4-8, 7:22-29, 7:60-8:6).

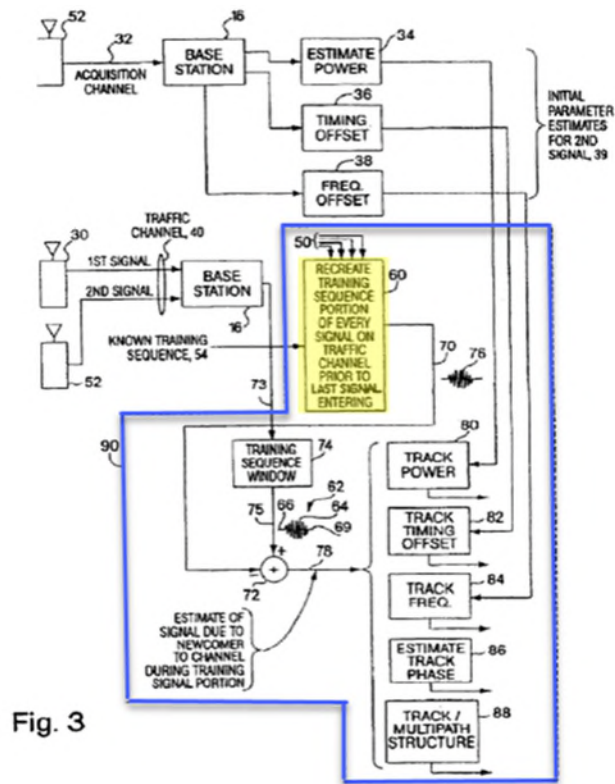
In addition, the disclosed “parameter tracking unit” also estimates and tracks the signal’s phase, using its unit 86 highlighted below.

- the parameter tracking unit's training sequence recreation 60;
- the parameter tracking unit's training sequence window 74; and
- the parameter tracking unit's summing junction 72.

(*E.g.*, EX1001 at 6:23-7:30).

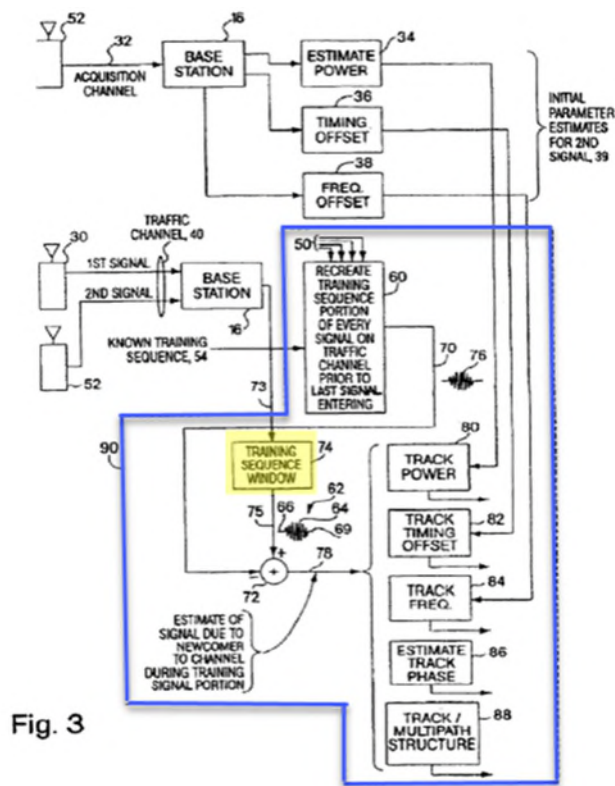
Training Sequences: Each transmitted signal includes a “training sequence,” that identifies the transmitter and permits communications from the transmitter to the receiver/bases station, and vice versa. (EX1001 at 4:60-5:7). The '505 patent further describes a “training sequence” that includes known bits or a symbol sequence used to obtain estimates of the signal's parameters. (EX1001 at 3:19-25). When a received signal's estimated parameters are tracked as described above, its training sequence may also be stored. (*E.g.*, EX1001 at 6:23-37).

Parameter Tracking Unit's Training Sequence Recreation Unit 60: Recall *the* scenario described above, where a first signal has been received by the base receiver. When other signals are present with the first signal, the training sequence portions of interfering signals are recreated at the parameter tracking unit's training sequence recreation unit 60:



(Pet. at 21 (highlighting added); EX1001 at 6:38-65).

Parameter Tracking Unit's Training Sequence Windowing Unit 74: The training sequence portions of the signals are created by and at the parameter tracking unit's training sequence windowing unit 74:



(Pet. at 21 (highlighting added); EX1001 at 6:66-7:12).

Parameter Tracking Unit's Summing Junction 72: Each of the foregoing collections of training sequence portions is delivered to the parameter tracking unit's summing junction 72:

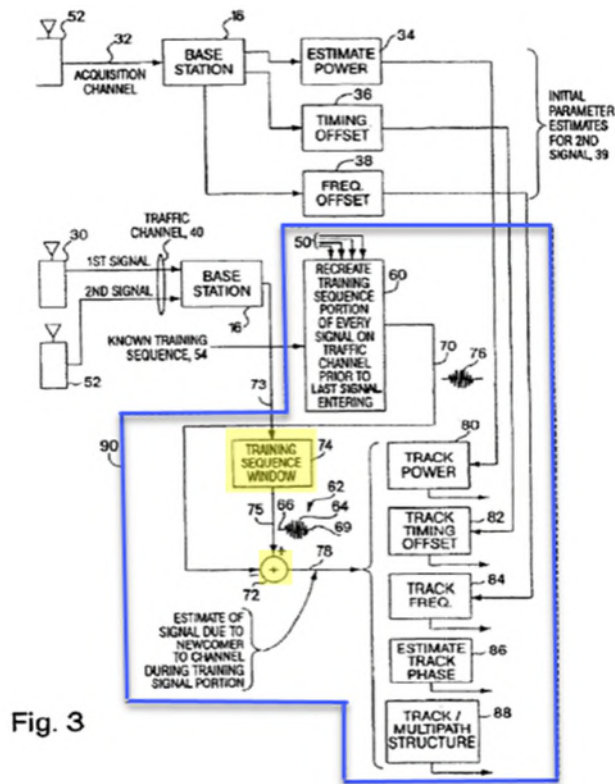


Fig. 3

(Pet. at 21 (highlighting added); EX1001 at 7:10-29).

At the summing junction 72, the collection of training sequence portions received from the training sequence recreation unit 60 (the recreated training sequence portions) is subtracted from the collection of training sequence portions received from the training sequence windowing unit 74. (EX1001 at 7:10-22). The result is the estimated training sequence portion for the target signal. (EX1001 at 7:10-22).

The parameter tracking unit can then use this isolated training sequence portion to track the foregoing parameters for the target signal. (EX1001 at 7:20-

29). The disclosed parameter tracking unit can isolate and track parameters for each signal despite the presence of other interfering signals. (EX1001 at 7:20-29).

C. Averaging

After estimating and tracking each signal's parameters in the foregoing ways, the disclosed parameter tracking unit updates and tracks those estimated parameters in real time by averaging. (*E.g.*, EX1001 at 2:50-67, 7:46-8:9).

As the '505 patent describes, a signal's parameters can vary from burst to burst because of, for example, the transmitter's movement in a physical environment and/or constant power level adjustments. (*E.g.*, EX1001 at 1:33-667). To account for this, the '505 patent describes that the parameter tracking unit can estimate and track a signal's parameters. (*E.g.*, EX1001 at 2:57-64, 7:60-8:9). To increase the quality of the estimated parameters, the parameter tracking unit can utilize averaging on the current and previously estimated parameters. (*E.g.*, EX1001 at 2:50-67, 7:60-8:9).

This "averaging" is based on the premise that a weighted average of at least some previously calculated parameters will produce high quality estimates. (EX1001 at 2:50-56). What this means is that, for example, as each burst arrives and the parameter tracking unit performs a parameter estimation on each burst, the weighted average produces better estimates. (*E.g.*, EX1001 at 2:50-67, 7:60-8:9).

IV. The Petition Should Be Denied Because Each Asserted Ground Fails To Establish The Required Reasonable Likelihood Of Success

Samsung's Petition asserts the following Grounds:

Ground	References	Basis	Challenged Claims
1	<i>Hottinen and Lilleberg</i>	§ 103	1, 3, 4, 5, 7, 8, and 9
2	<i>Zimmerman and Lilleberg</i>	§ 103	1, 3, 4, 5, 7, 8, and 9

All of the challenged claims are directed to a “parameter estimation unit” that includes a “means . . . for providing uninterrupted estimates of the channel transfer function parameters on a real time basis” (*E.g.*, EX1001 at claims 1 and 9).

Petitioner concedes that this estimates means element should be construed as means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. Petitioner also concedes that this means-plus-function limitation's corresponding structure is the “parameter tracking unit” described above,² including that unit's above-described averaging, Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72. (Pet. at 20-21).

But despite these admissions, the Petition does not even attempt to identify the disclosed and admittedly required “parameter tracking unit.”

² The correct construction also includes equivalents to the described “parameter tracking unit,” but the Petition makes no arguments concerning and does not rely on any alleged equivalents in the asserted references.

Each Ground relies solely on the *Lilleberg* reference as supposedly disclosing the disclosed “parameter tracking unit,” but the Petition provides no support for this conclusory allegation—the Petition simply asserts that *Lilleberg* discloses the “parameter tracking unit” described in the ’505 patent, without saying or showing how.

For example, although the Petition admits that the ’505 patent describes the “parameter tracking unit” as including and requiring its Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72, the Petition does not allege that any of these components—much less all of them—are disclosed in *Lilleberg*. It cannot because *Lilleberg* is silent to such features; indeed, *Lilleberg* does not even mention training sequences.

Likewise, although the ’505 patent describes the disclosed “parameter tracking unit” as averaging parameter estimates in real time—and the Petition cites to that description as describing the claimed parameter tracking unit—the Petition does not even allege, much less prove that the purported *Lilleberg* parameter tracking unit features such averaging.

For any and all of these reasons, the Petition fails to show the required reasonable likelihood of success under any asserted Ground, and the Petition should be denied.

A. All Asserted Claims Require The ‘Means’

Each Ground challenges the same claims: independent claim 1 (and its dependent claims 3, 4, 5, 7, 8) and independent claim 9.

Each challenged claim is directed to a “parameter estimation unit” that includes a “means . . . for providing uninterrupted estimates of the channel transfer function parameters on a real time basis” (*E.g.*, EX1001 at claims 1 and 9).

For example, this limitation is present and bolded in the exemplary claim 1:

1. In a multi-user detection system in which interfering signals are purposely allowed to exist, a parameter estimation unit for use in conjunction with a signal separation unit, in which each received signal has associated channel transfer functions, comprising:

a signal processor for determining said channel transfer functions for each received signal; and,

means coupled to said channel transfer function determining signal processor **for providing uninterrupted estimates of the channel transfer function parameters on a real-time basis** by first deriving the estimated channel transfer function for each of said interfering signals.

(EX1001 at claim 1, *see also* claim 9 at 14:8-12).

B. Construction Of The Claimed Means**1. Petitioner Concedes That The Claimed Means Should Be Construed Under 35 U.S.C. § 112, ¶ 6**

Under the Federal Circuit’s *Williamson* decision, there is a rebuttable presumption that claim element written as a “means” for performing a function should be construed as a means-plus-function limitation under 35 U.S.C. § 112, ¶

6. *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (relevant portion decided *en banc*).

Here the claim element is written as a “means” for performing a function, including providing uninterrupted estimates of the channel transfer function parameters on a real-time basis: “means coupled to said channel transfer function determining signal processor for providing uninterrupted estimates of the channel transfer function parameters on a real-time basis by first deriving the estimated channel transfer function for each of said interfering signals.” (EX1001 at claim 1, *see also* claim 9 at 14:8-12).

In addition, there is no evidence or argument rebutting the presumption that this limitation is a means-plus-function limitation under 35 U.S.C. § 112, ¶ 6. To the contrary, Petitioner concedes that it is a means-plus-function limitation. (*E.g.*, Pet at 15-22).

2. Petitioner Concedes That The Corresponding Structure Is The “parameter tracking unit” Described In The ’505 Patent

Correctly construed, a mean-plus-function limitation covers the corresponding structures disclosed in the specification for performing the claimed functions, and equivalents thereof. *Williamson*, 792 F.3d at 1351. A structure disclosed in the specification is a corresponding structure if the specification links or associates the structure to the function recited in the claim. *Id.* at 1352.

Here, Petitioner concedes that the corresponding structure is the “parameter tracking unit” described in the ’505 patent. (*E.g.*, Pet. at 15-22; EX1001 at 5:20-40, 6:9-23, 7:45-8:40, FIGs. 1, 3-4). (Indeed, the entire Petition is premised upon this construction and provides no alternative theories or grounds under any other constructions. Therefore, if the corresponding structure is not the described “parameter tracking unit” as Petitioner concedes and alleges, the Petition has no remaining grounds and should be denied for that reason alone.)

Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72: Petitioner also alleges that this corresponding structure includes the parameter tracking unit’s Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72. (*See, e.g.*, Pet. at 20-22). For example, Petitioner annotated Figure 3 with a blue box as reproduced below, arguing that the blue box identifies the “parameter tracking unit” that is the relevant corresponding structure. As depicted and annotated by Petitioner, this corresponding structure encompasses and includes the parameter tracking unit’s Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72.

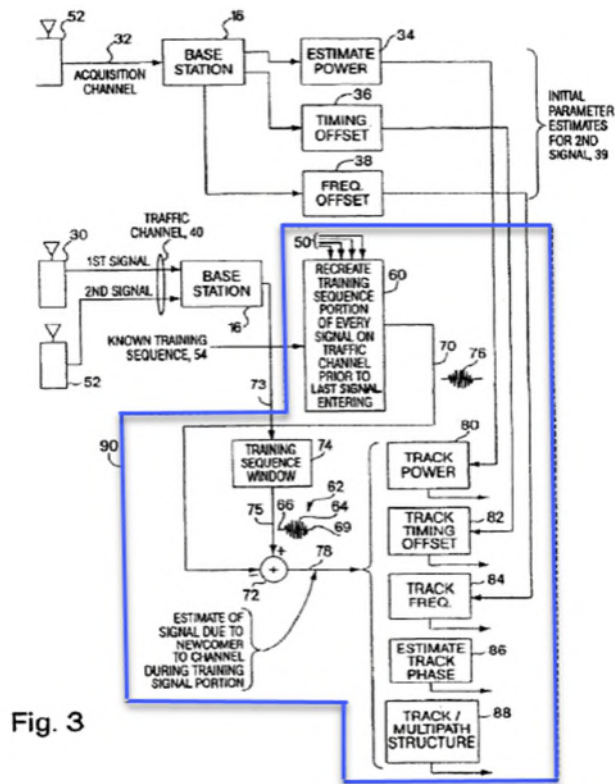


Fig. 3

(Pet. at 21; EX1001 at 7:55-59, Fig. 3).

And Petitioner's annotation and admission is consistent with the '505 specification, which describes the "parameter tracking unit" as "including all of the elements [in] dotted box 90" in Figure 3. (*E.g.*, EX1001 at 7:55-59). These elements include each of the Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72. (*E.g.*, EX1001 at Fig. 3, 6:39-7:21, 7:55-59).

Indeed, as established above (and consistent with Figure 3 and Petitioner's admissions), the patent describes that the parameter tracking unit features and uses each of the Training Sequence Recreation Unit 60, Training Sequence Windowing

Unit 74, and Summing Junction 72 to perform part of the claimed function, e.g., to estimate channel transfer function parameters for each of the interfering signals.

The patent also describes that the parameters could be tracked either conventionally or by “tracking the entire channel transfer function from a known transmitted signal where the separate estimation of the power, timing offset, phase, frequency offset, and multipath structure is not necessary.” (*E.g.*, EX1001 at 6:9-22).

Averaging: When identifying which specification language describes the “parameter tracking unit” corresponding structure, Petitioner identifies and cites 7:45-8:40 (Pet. at 20-22), wherein the specification describes the parameter tracking unit 90 as averaging the currently determined parameter estimate with the older parameter estimates: “Having thus calculated an interference free signal, the parameter estimates are calculated again as shown in FIG. 3 and averaged with older parameter estimates for this user as described in the FIG. 3 discussion above.”

And even absent Petitioner’s admissions, the described averaging is a necessary part of the corresponding structure. The claimed function does not merely recite providing estimates of the channel transfer function parameters, it recites “providing **uninterrupted** estimates of the channel transfer function parameters **on a real time basis.**” The foregoing “averaging” is how the patent

describes the parameter tracking unit providing uninterrupted estimates of the channel transfer function parameters on a real-time basis, and this requirement cannot be read out of the claimed function or its identified corresponding structure.

C. Each Ground Fails To Identify The Described “parameter tracking unit”

Each Ground relies solely on the *Lilleberg* reference as supposedly disclosing the disclosed “parameter tracking unit.” (*E.g.*, Pet. at 38, 63). But the Petition identifies no such “parameter tracking unit” in *Lilleberg*. (EX2001 at 65). Instead, the Petition simply asserts that *Lilleberg* discloses the “parameter tracking unit” described in the ’505 patent, without saying or showing how. (*E.g.*, Pet. at 38, 63; EX2001 at 65).

For example, although the Petition admits the described “parameter tracking unit” includes (and to perform the claimed function, requires) its Training Sequence Recreation Unit 60, Training Sequence Windowing Unit 74, and Summing Junction 72, the Petition does not allege that any of these components—much less all of them—are disclosed in *Lilleberg*. (*E.g.*, Pet. at 38, 63; EX2001 at 66). It cannot because *Lilleberg* is silent to such features; indeed, *Lilleberg* does not even mention training sequences. (EX2001 at 66).

Likewise, although the ’505 patent describes the disclosed “parameter tracking unit” as averaging the parameter estimates in real time—and the Petition

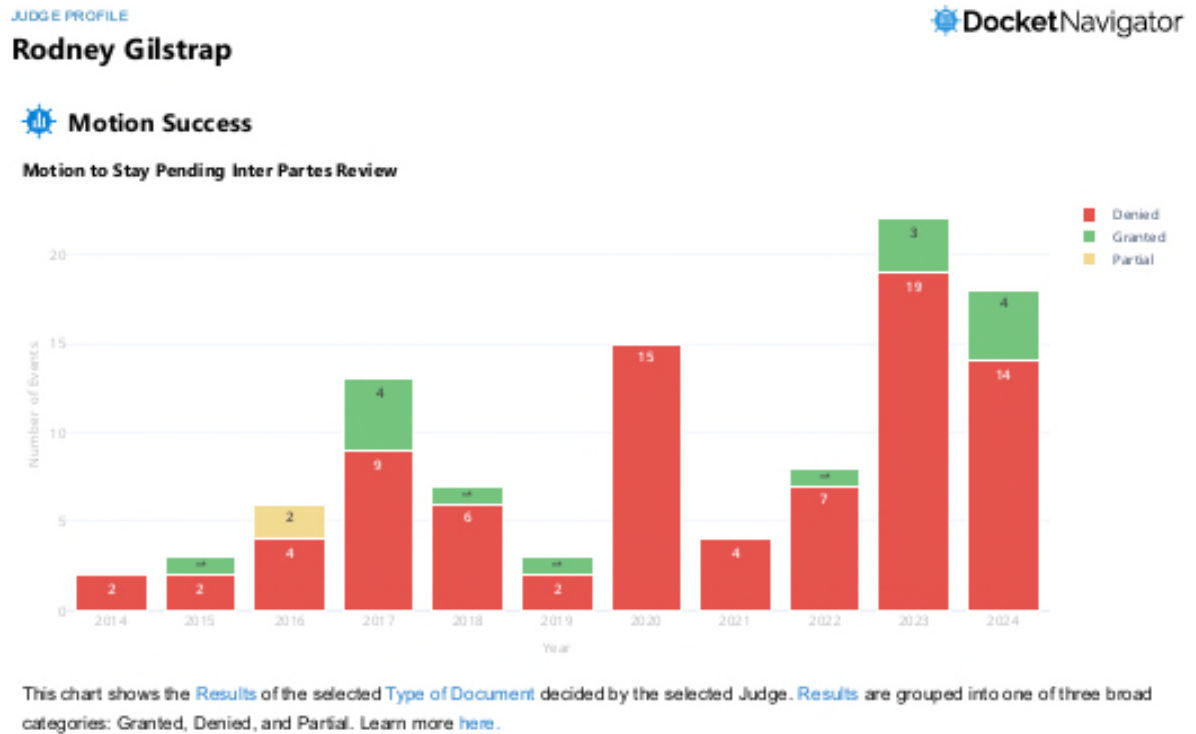
cites to that description as describing the claimed parameter tracking unit—the Petition does not even allege, much less prove that the purported *Lilleberg* parameter tracking unit features such averaging. (*E.g.*, Pet. at 38, 63; EX2001 at 67).

V. The *Fintiv* Factors Heavily Favor Discretionary Denial Of Institution Under § 314(A)

The *Fintiv* factors heavily weigh in favor of discretionary denial. In an attempt to characterize every factor as either neutral or favoring institution, the Petition is rife with conclusory statements and misapplications of controlling PTAB precedent. Under the appropriate legal standards—and considering the totality of the record evidence—on balance, the *Fintiv* factors support discretionary denial of institution.

A. Factor 1: Whether a stay exists or is likely to be granted if a proceeding is instituted

Petitioner admits that it has not sought a stay in the district court, and Patent Owner represents that it will not seek nor agree to a stay. Further, here other evidence exists that makes stay very unlikely. Over the past ten years, the presiding district court judge has denied over 83% of motions to stay pending *inter partes* review.



EX2007. Because the Petition does not even go as far to suggest that Petitioner will seek a stay, and because Judge Gilstrap has denied the overwhelming majority of motions to stay pending *inter partes* review, this factor weighs in favor of discretionary denial.

B. Factor 2: Proximity of the court’s trial date to the Board’s projected statutory deadline

Here, any final written decision would issue *over five months* after the trial date. If the court’s trial date is earlier than the expected statutory deadline for the IPR’s final written decision, “the Board generally has weighed this fact in favor of exercising authority to deny institution.” *Fintiv*, IPR2020-00019, Paper 11 at 9.

The trial date is set for September 8, 2025, while the statutory final written

decision, if the IPR were instituted, would be February 14, 2026. While Petitioner suggests that “much can change in five months,” that speculation is entirely without basis. *See* Pet. at 78.

To the contrary, the evidence of record strongly supports the conclusion that trial will occur months before any final written decision would issue. According to the most recent statistics, the time to trial for the Eastern District of Texas is 21.6 months—squarely in line with the approximately 21-month schedule set by the district court. EX2008 (June 30, 2024 Federal District Court Case Management Statistics); EX2009 (Docket in *Collision Communications, Inc. v. Samsung Electronics Co., Ltd.*, No. 23-cv-00587 (E.D. Tex.) showing complaint filing date of Dec. 12, 2023); *see also Comcast Cable Communications, LLC v. Touchstream Technologies, Inc.*, IPR2024-00324, Paper 13 at 10 (PTAB July 24, 2024) (“Patent Owner’s representation of median time-to-trial of twenty-one months is consistent with the most recent available data from the judiciary. . . . We find that the related district court litigation’s trial date and the district court’s median time-to-trial favor denial.”) (discretionary denial granted upon rehearing); PTAB Director’s 2022 *Fintiv* Memorandum, 8-9 (“Parties may present evidence regarding the most recent statistics on median time-to-trial for civil actions in the district court in which the parallel litigation resides for the PTAB’s consideration.”).

Because any final written decision would issue substantially later than the district court trial, this factor weighs in favor of discretionary denial. *See Verizon Bus. Network Servs. LLC v. Huawei Techs. Co. Ltd.*, IPR2020-01292, Paper 13 at 12 (PTAB Jan. 25, 2021) (trial date seven to eight months before expected final written decision deadline weighs in favor of discretionary denial).

C. Factor 3: Investment in the parallel proceeding by the court and parties

At best for Petitioner, this factor slightly favors denial of institution or is neutral. Petitioner fails to evaluate the investment by both the court *and* the parties at the relevant time—at the deadline for institution. *Apple Inc. v. Fintiv, Inc.*, IPR2020- 00019, Paper 11 at 9-10 (PTAB Mar. 20, 2020) (precedential). By the February 14, 2025 deadline for institution, the parties will have invested substantial resources in the following case events:

- Completion and service of invalidity contentions
- Completion of claim construction discovery
- Substantial completion of document production
- Exchange of privilege logs
- Filing of technical tutorials for claim construction
- Filing of opening claim construction brief
- Filing of responsive claim construction brief

EX2010 (Scheduling Order). Therefore, this case, particularly at the time of institution, will hardly be in the “very early stages of litigation” and discovery will not be in its “preliminary stages.” *See* Pet. at 79. The Parties will have expended significant resources on the district court litigation by the deadline for institution, which favors denial of institution. Finally, Petitioner provides no support for its contention that filing the Petition five months before the statutory deadline weighs against denying institution. *See id.* Conversely, filing the Petitions four months after receiving Patent Owner’s infringement contentions and notice of asserted claims weighs slightly in favor of denial of institution. *Comcast*, IPR2024-00324, Paper 13 at 15.

D. Factor 4: Overlap between issues raised in the petition and in the parallel proceeding

The Petition challenges the same claims as are asserted in the district court. Due to the substantial overlap in challenged claims and the similarity of Petitioner’s claims and theories, this factor weighs in favor of discretionary denial. *Fintiv*, IPR2020-00019, Paper 11 at 12-13 (“[I]f a petition involves the same prior art challenges but challenges claims in addition to those that are challenged in the district court, it may still be inefficient to proceed because the district court may resolve validity of enough overlapping claims to resolve key issues in the petition.”).

E. Factor 5: Whether the petitioner and the defendant in the parallel proceeding are the same party

Petitioner admits that the parties in this IPR and the district court proceeding are the same. Despite that admission, it argues that the factor is neutral. This is flatly wrong. Precedential PTAB authority holds that where the petitioner and the defendant in the parallel proceedings are the same party, the factor favors denial. *See Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A); *see also Comcast*, IPR2024-00324, Paper 13 at 15.

F. Factor 6: Other circumstances that impact the Board's exercise of discretion, including the merits / Compelling Merits

No other considerations warrant discretionary denial. As discussed above, Petitioner's case does not even meet the "reasonable likelihood" standard for the statutory institution threshold. The Petition thus falls far short of showing "compelling merits." *See* PTAB Director's 2022 *Fintiv* Memorandum, 4 ("Compelling, meritorious challenges are those in which the evidence, if unrebutted in trial, would plainly lead to a conclusion that one or more claims are unpatentable by a preponderance of the evidence. . . . Where the information presented at the institution stage is merely sufficient to meet the statutory institution threshold, the PTAB has the authority, where warranted, to exercise discretion to deny institution in view of the other *Fintiv* factors."). Accordingly,

because the Petition fails to show compelling merits, and the *Fintiv* factors heavily support discretionary denial, the Board should deny institution.

VI. Conclusion

For the foregoing reasons, the Board should deny institution of the Petition.

Dated: November 14, 2024

Respectfully submitted,

/William A. Meunier/

William A. Meunier (Reg. No. 41,193)

Michael T. Renaud (Reg. No. 44,299)

Kevin C. Amendt (Reg. No. 69,361)

MINTZ, LEVIN, COHN, FERRIS,

GLOVSKY AND POPEO, P.C.

One Financial Center

Boston, MA 02111

Telephone: 617-542-6000

Facsimile: 617-542-2241

E-mails: WAMeunier@mintz.com;

MTRenaud@mintz.com;

KCAmendt@mintz.com

CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. §42.24(d), Patent Owner hereby certifies, in reliance on the word count of the word-processing system (Microsoft Office Word 2010) used to prepare this preliminary response, that the number of words in this paper is 4,961. This word count excludes the tables of contents, tables of authorities, certificate of word count, certificate of service, and table of exhibits.

Dated: November 14, 2024

/William A. Meunier/

William A. Meunier (Reg. No. 41,193)

CERTIFICATE OF SERVICE

I certify that copies of Patent Owner's Preliminary Response and accompanying Collision Exhibits 2001 through 2010 are being served by electronic mail on the following counsel of record:

James M. Glass (Reg. No. 46729)
jimglass@quinnemanuel.com

John T. McKee (Reg. No. 65,926)
johnmckee@quinnemanuel.com

QUINN EMANUEL URQUHART &
SULLIVAN, LLP
51 Madison Avenue, 22nd Floor
New York, NY 10010
Tel: (212) 849-7000
Fax: (212) 849-7100

QUINN EMANUEL URQUHART &
SULLIVAN, LLP
51 Madison Avenue, 22nd Floor
New York, NY 10010
Tel: (212) 849-7000
Fax: (212) 849-7100

Dated: November 14, 2024

/William A. Meunier/

William A. Meunier (Reg. No. 41,193)