

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

VASU HOLDINGS, LLC,
Patent Owner.

Case IPR2025-00448
U.S. Patent No. 10,368,281

PATENT OWNER'S PRELIMINARY RESPONSE

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PATENT OWNER'S EXHIBIT LIST

Exhibit	Description
2001	U.S. Patent Application Publication No. 2005/0239498 ("Dorenbosch-498")
2002	Declaration of James Hannah in Support of Patent Owner's Request for Discretionary Denial
2003	Excerpt from U.S. District Court – National Judicial Caseload Profile Federal for the Eastern District of Texas, available at https://www.uscourts.gov/sites/default/files/2024-12/fcms_na_distprofile0930.2024.pdf
2004	Spreadsheet regarding Magistrate Judge Payne's average time to issue a <i>Markman</i> Order after a <i>Markman</i> hearing, from July 1, 2023, to present, exported from Docket Navigator, https://brochure.docketnavigator.com/
2005	Intentionally Omitted
2006	Intentionally Omitted
2007	Intentionally Omitted
2008	Order, <i>California Institute of Technology v. Samsung Electronics Co., Samsung Electronics America, Inc.</i> , Case No. 2:21-cv-00446-JRG, Dkt. No. 108 (E.D. Tex. Jan. 20, 2023)
2009	Order, <i>Resonant Systems, Inc., d/b/a RevelHMI v. Sony Group Corporation and Sony Interactive Entertainment Inc.</i> , Case No. 2:22-cv-00424-JRG, Dkt. No. 84 (E.D. Tex. July 9, 2024)
2010	Order, <i>MyPort, Inc. v. Samsung Electronics Co., Samsung Electronics America, Inc.</i> , Case No. 2:22-cv-00114-JRG, Dkt. No. 73 (E.D. Tex. June 13, 2023)
2011	Order, <i>General Access Solutions, Ltd. v. Cellco Partnership d/b/a Verizon Wireless</i> , Case No. 2:22-cv-00394-JRG, Dkt. No. 225 (E.D. Tex. May 22, 2024)

Patent Owner's Preliminary Response
IPR2025-00448 (U.S. Patent No. 10,368,281)

Exhibit	Description
2012	U.S. Patent Application Publication No. 2004/0030791 ("Dorenbosch-791")
2013	U.S. Patent Application Publication No. 2005/0059400 ("Jagadeesan")
2014	U.S. Patent Application Publication No. 2004/0153676 ("Krantz")
2015	Claim Construction Order, <i>Vasu Holdings, LLC v. Samsung Elecs. Co.</i> , Case No. 24-cv-00034-JRG-RSP, Dkt. No. 78 (E.D. Tex. May 19, 2025)

I. INTRODUCTION

Patent Owner, Vasu Holdings, LLC, (“Vasu”) respectfully requests that the Board deny the Petition challenging 1, 12, 31, and 37 (the “Challenged Claims”) of U.S. Patent No. 10,368,281 (Ex. 1001, “the ’281 Patent”) because Willhoff does not cure the deficiencies in the primary reference, Chaskar, that were recognized and distinguished during examination of the ’281 Patent. Like Chaskar, Willhoff fails to teach or suggest that “***upon activation of a timer***, the switching system causes the second communication module to change state from a sleep mode to an active mode, ***wherein the timer is activated to establish a time window of a predefined size***,” as recited in Claim 1. Claims 12, 31, and 37 recite similar limitations. This flaw is common to all Grounds (1-4) asserted in the Petition. Thus, the Petition should be denied for failure to establish a reasonable likelihood of success as to any Challenged Claims of the ’281 Patent.

II. OVERVIEW OF THE ’281 PATENT

A. The ’281 Patent (Ex. 1001)

The ’281 Patent is directed to a mobile communication device configured to automatically switch a communication that is already in progress using a cellular network to a wireless Voice over IP (VoIP) network, or vice versa. ’281 Patent at 2:36-41. This invention addressed the cumbersome problem of having to “manually change the device’s setting by, e.g., pressing one [or] more keys” or the reliability

issue stemming from “switching of the call from cellular to VoIP or vice versa [that] may result in the loss of the call.” *Id.* at 2:15-32.

The '281 Patent discloses a mobile communication device having a timer. If the mobile device is conducting a call with its cellular communication module and its Wi-Fi antenna system detects a Wi-Fi system having a predefined threshold level (strength), that timer is activated to establish a time window having a predetermined size. *Id.* at 2:54-67. If the Wi-Fi signal level detected during this window at least meets the predefined threshold at the expiration of the timer, the mobile communication device's switching system causes the in-progress communication to be switched from its cellular module to its Wi-Fi communication module and through a VoIP network without losing the in-progress cellular call. *Id.*

The Wi-Fi communication module is also configured to change state from a sleep mode (during which the Wi-Fi communication module consumes relatively small amounts of power) to a standby mode during which the Wi-Fi communication module consumes an intermediate amount of power. *Id.* at 3:1-6. Before the in-progress communication is switched to the Wi-Fi communication module, the mobile communication device causes the module to switch to a full active mode, during which the Wi-Fi communication module consumes an amount of power larger than an intermediate amount of power. *Id.* at 3:6-11.

B. Prosecution History of the '281 Patent

The '281 Patent issued from U.S. Patent Application No. 15/480,293, filed on April 5, 2017. Ex. 1002 at 56 (Filing Receipt). The '281 Patent is a continuation application in a chain of continuation applications starting from U.S. Patent Application No. 11/031,498, filed on January 6, 2005, which claims priority to U.S. Provisional Application No. 60/534,466, filed on January 6, 2004. *Id.*

The '281 Patent was subject to a comprehensive and substantive examination. In a January 16, 2018, Office Action and an April 4, 2018, Final Office Action, the Examiner rejected the claims using combinations of U.S. Patent Publication No. 2004/0030791 to Dorenbosch ("Dorenbosch-791", Ex. 2012), U.S. Patent Publication No. 2005/0059400 to Jagadeesan ("Jagadeesan", Ex. 2013), U.S. Patent Publication No. 2005/0239498 to Dorenbosch ("Dorenbosch-498", Ex. 2001), and Chaskar (Ex. 1004). *See* Ex. 1002 at 435-444 (Non-Final Office Action dated 1/16/18); *see also id.* at 493-499 (Final Office Action dated 4/4/2018).

In response, Applicant distinguished the '281 Patent's claims over the Examiner's rejections by various claim amendments and arguments. Ex. 1002 at 567, 570, 573, 575 (amending pending claims 17, 45, 76, 85 [issued claims 1, 23, 37, and 45] to add "wherein upon activation of a timer, [the/a] switching system causes [the/a] second communication module to change state from a sleep mode to an active mode, wherein the timer is activated to establish a time window of a

predefined size”); *id.* at 569 (amending 33 [issued claim 12] to recite third and fourth contexts, and second and third threshold values); *id.* at 571 (amending claim 56 [issued claim 31] to recite “wherein if a signal monitor detects that the alternative signal level is below a second predefined threshold value, a timer is activated to establish a second time window of a second predefined size, wherein a third predefined threshold value is smaller than a second predefined threshold value”).

The Examiner agreed with Vasu's arguments and indicated the claim amendments overcame the combination of references, including Dorenbosch-791, Dorenbosch-498, and Chaskar. In a September 12, 2018, Office Action (and in a January 9, 2019, Final Office Action), the Examiner rejected the claims using a new combination of Jagadeesan and U.S. Publication No. 2004/0153676 to Krantz (“Krantz,” Ex. 2014). Ex. 1002 at 598-605 (office action dated 9/12/2018); *id.* at 672-676 (final office action dated 1/9/2019). In response, Applicant amended the claims to incorporate allowable subject matter from then-pending claim 21. *Id.* at 634-637, 640-648 (Second response to Office Action dated 12/12/2018); *id.* at 702-705, 710-718 (Second response to final Office Action dated 3/8/2019).

The Examiner allowed all pending claims in view of the timer limitations found in each:

Regarding claims 17, 45, 76, and 85, the prior art fails to teach “wherein if a Wi-Fi signal monitor [detects] that a Wi-Fi signal level is below a second predefined threshold value V_{th2} ; the timer is activated to

establish a second time window of the second predefined size T2, wherein a third predefined threshold value Vth3 is smaller than Vth2[]”, in linking with other subject matters in the claim.

Regarding claim 33, the prior art fails to teach “establishing a second time window of a second predefined size T, if the third detected context falls below a second predefined threshold value Vth2; detecting a fourth context during the second time window; and continuing a Wi-Fi communication without change if the fourth detected context is equal to or greater than a third predefined threshold value Vth3, wherein Vth3 is smaller than Vth2[]”, in linking with other subject matters in the claim.

Regarding claim 56, the prior art fails to teach “a timer is activated to establish a second time window of a second predefined size, wherein a third predefined threshold value is smaller than a second predefined threshold value”, in linking with other subject matters in the claim.

Id. at 732 (Notice of Allowance dated 3/15/2019). The '281 Patent issued on July 30, 2019. Upon issue, then-pending claims 17, 33, 45, 56, 76, and 85 were renumbered to the Challenged Claims 1, 12, 23, 31, 37, and 45, respectively. *Id.* at 767.

C. Overview of the Challenged Claims

The Petition presents the following references as its respective grounds for invalidating claims of the '281 Patent:

Ground	Claims	Basis	References Relied Upon
1	1, 12, and 37	§103	Chaskar, Dorenbosch, and Willhoff
2	1, 12, and 37	§103	Chaskar, Dorenbosch, Willhoff, and Donovan
3	31	§103	Chaskar, Willhoff, and Ruan
4	31	§103	DeAnna, Chaskar, Willhoff, and Ruan

Paper 2 (“Pet.”) at 7.

Claims 1, 12, 31, and 37 are all independent claims. Claim 1 recites a device and is reproduced below, using the Petition’s element numbering:

[1.pre] A device comprising:

[1.a] a switching system to switch operation between a first communication module and a second communication module,

[1.b] wherein during an established communication if a context changes, the established communication is switched to a second communication over a second network, wherein switching is based on detecting a second context being preferred over the context within a set of networks,

[1.c] wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to an active mode, wherein the timer is activated to establish a time window of a predefined size,

[1.d] wherein if a Wi-Fi signal monitor detects that a Wi-Fi signal level is below a second predefined threshold value V_{th2} , the timer is activated to establish a second time window of a second predefined size T_2 ,

[1.e] wherein a third predefined threshold value V_{th3} is smaller than V_{th2} .

Claim 37 recites a device similar to claim 1, and it further recites “wherein if the monitor detects that a signal level is below a second predefined threshold value.” ’281 Patent at 10:55-56. Claim 12 recites a method having similar limitations as the device in claim 1, and it further recites steps of detecting third and fourth context. *Id.* at 8:53-9:4. Claim 31 recites a method similar to method claim 12, and it further recites “searching for alternative Wi-Fi signals having signal level above the first predefined threshold value.” *Id.* at 10:13-16.

D. Priority Date of the ’281 Patent Claims

Petitioners acknowledge that the Challenged Claims are entitled to an effective filing date of January 6, 2004, *i.e.*, the filing date of Provisional Application No. 60/534,466 listed in the ’281 Patent’s priority claim. Pet. at 13.

III. LEVEL OF ORDINARY SKILL IN THE ART

Vasu applies the definition of a person of ordinary skill in the art (“POSITA”) as an individual who possesses (1) a Bachelor’s degree in electrical engineering, computer science, or the like, and (2) has an advanced degree or at least two years

of relevant work experience in the field. Additional work experience could serve as a substitute for a lack of education, and vice versa.

IV. CLAIM CONSTRUCTION

On May 19, 2015, numerous claim terms of the Challenged Claims were construed by the district court in the corresponding litigation (Case No. 2:24-cv-00034-JRG-RSP), as summarized in the below table:

Claim Term	Court's Claim Construction
"context" (Claims 1, 12, 37)	"characteristic of a signal and/or of a network" Ex. 2015 at 15.
"wherein upon activation of a timer, the switching system causes [the/a] second communication module to change state from a sleep mode to an active mode" (Claims 1, 37)	"wherein in the process or course of activation of a timer, the switching system causes [the/a] second communication module to change state from a sleep mode to an active mode" Ex. 2015 at 21.
"determining a second context during the first time window" (Claim 12)	Plain meaning Ex. 2015 at 22-24.
"determining, with the server, a second signal level during the first time window" (Claim 31)	Plain meaning Ex. 2015 at 22-24.

“wherein a third predefined threshold value Vth3 is smaller than Vth2” (Claims 1, 31, 37)	“wherein a third predefined threshold value Vth3 smaller than Vth2 is used for signal monitoring during the second predefined window” Ex. 2015 at 28.
“wherein a third predefined threshold value is smaller than a second predefined threshold value” (Claims 1, 31, 37)	“wherein a third predefined threshold value smaller than a second predefined threshold value is used for signal monitoring during the second predefined window” Ex. 2015 at 28.
“if a signal monitor detects that the alternative signal level is below a second predefined threshold value” (Claims 31)	Plain meaning Ex. 2015 at 33-34.

V. OVERVIEW OF THE ASSERTED REFERENCES

A. Chaskar (Ex. 1004)

Chaskar is U.S. Patent Publication No. 2004/0137902 and discloses “[a] method and apparatus for controlling handover between a first technology network and a second technology network by detecting information about regions of an area of the first technology network, and deciding whether to initiate a handover procedure between the first and second technology networks based on the detected region information.” Ex. 1004 (“Chaskar”) at Abstract.

As discussed *supra* in Section II.B, the Office previously used Chaskar to reject the Challenged Claims during examination of the '281 Patent. Ex. 1002

at 435-444. Vasu distinguished the Challenged Claims over Chaskar by argument and by amending the claims to recite elements such as limitations [1.c]: “upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to an active mode, wherein the timer is activated to establish a time window of a predefined size.” *Id.* at 567-575.

Petitioners rely on Chaskar as a primary reference in all Grounds 1-4 for allegedly disclosing or suggesting most elements of the Challenged Claims. Pet. at 6-7. Petitioners do not contest the absence of an activated timer in Chaskar, and instead rely on a combination with Willhoff to satisfy the activated “timer” limitations. *Id.* at 25 (acknowledging “[Chaskar] does not provide implementation details for such measurement”); *id.* at 38.

B. Dorenbosch (Ex. 1005)

Dorenbosch is U.S. Patent Publication No. 2005/0048977 and discloses a system and method to improve handover and registration behavior between WLANs and WANs and the battery life of a mobile device when a user is stationary in border cells. Dorenbosch at [0002]. Dorenbosch is relied upon in Grounds 1 and 2 (Claims 1, 12, and 37) for allegedly disclosing WLAN and WAN transceivers, detecting both WLAN and WAN contexts, transitioning from a WAN to a WLAN, and a WAN transceiver changing state from a sleep mode to an active mode. Pet. at 28-29 (limitation [1.a]), *id.* at 31-33 (limitation [1.b]), *id.* at 34-37 (limitation [1.c]); *see*

also id. at 43-45 (limitation [12.a]); *id.* at 45-48 (limitation [12.b]); *id.* at 49-50 (limitation [12.c]); *id.* at 51-53 (limitation [12.d]).

C. Willhoff (Ex. 1006)

Willhoff is U.S. Patent No. 6,049,715 and discloses “a method and apparatus for determining and executing correct handoff decisions in a wireless communications system.” Willhoff at 1:15-20. Willhoff describes using a “long term average and a short term value of the strength of a received signal . . . to determine a trigger condition in a mobile communications system to perform such functions as control channel or traffic channel reselect.” *Id.* at Abstract. The long-term average “removes the effects of short term fades in the short term signal that otherwise may cause a premature trigger decision.” *Id.* The short-term value “offsets historical bias that may be built into long term average.” *Id.* Willhoff describes that “[t]he actual trigger is only realized when both the long term average and the short term value exceed predetermined thresholds in a positive or negative direction.” *Id.*

Willhoff is relied upon in all Grounds 1-4 for allegedly disclosing “activation of a timer” and activating the timer to establish time windows of predefined sizes, but for all of the reasons discussed below, the long and short term averages disclosed in Willhoff concern **how** signal strength is measured, they are not timers that establish time windows for comparing signal strength against a threshold value, as

claimed. Pet. at 38-40 (limitation [1.c]); *id.* at 41-42 (limitation [1.d]); *see also id.* at 48-49 (limitation [12.b]); *id.* at 50-51 (limitation [12.c]); *id.* at 56 (limitation [12.f]).

D. Donovan (Ex. 1007)

Donovan is U.S. Patent Publication No. 2005/0063348 and discloses a wireless station that communicates with at least one other wireless station in a local area network (LAN). Ex. 1007 at Abstract. Donovan is relied upon in Ground 2 as a backup reference for Chaskar “[i]f further disclosure of a ‘sleep mode’ is required.” Pet. at 60-61.

E. Ruan (Ex. 1008)

Ruan is U.S. Patent Publication No. 2004/0246922 and discloses “a wireless device making roaming decisions based on association qualities between the wireless device and one or more wireless access points.” Ex. 1008 at [0002]. Ruan is relied on, in Grounds 3 and 4 against Challenged Claim 31, for allegedly disclosing “alternative Wi-Fi search and connection teachings.” Pet. at 64-65; *id.* at 70-71 (limitation [31.d]); *id.* at 74-75 (limitation [31.e]); *id.* at 77-79.

F. DeAnna (Ex. 1009)

DeAnna is U.S. Patent Publication No. 2003/0084056 and discloses a lightweight application server for use on portable or embedded devices that includes

an application manager and services containers. Ex. 1009 at Abstract. DeAnna is relied on in Ground 4 for allegedly disclosing “a server.” Pet. at 80-83.

VI. CHASKAR AND WILLHOFF FAIL TO RENDER OBVIOUS THE ACTIVATION OF A TIMER LIMITATIONS (ALL GROUNDS)

The Board should deny the Petition because Petitioners have failed to demonstrate by a reasonable likelihood that Chaskar and Willhoff render obvious each and every element of the Challenged Claims. Specifically, Chaskar and Willhoff do not teach or suggest at least limitation [1.c]: “***wherein upon activation of a timer***, the switching system causes the second communication module to change state from a sleep mode to an active mode, ***wherein the timer is activated to establish a time window of a predefined size.***” ’281 Patent at Claim 1 (emphasis added). Challenged claims 12, 31, and 37 recite similar limitations requiring activation of a timer to establish time windows of particular predefined sizes.¹

¹ Claim 12 recites “activating a timer to establish a first time window of a first predefined size T_1 based on the detected first context” (limitation [12.b], ’281 Patent at 8:55-56); claim 31 recites “activating, with the server, a timer to establish a first time window of a first predefined size T_1 if the detected first signal level is greater than a first predefined threshold value” (limitation [31.b] , *id.* at 10:7-10); claim 37

Petitioners map Chaskar's "signal strength averaging windows" to the claimed establishment of a time window of a predefined size. Pet. at 33. But Petitioners acknowledge that Chaskar fails to describe "a timer," or performing an action upon "activation of a timer." *Id.* at 25 (characterizing the timer as "implementation details" that "[Chaskar] does not provide").

To cure this deficiency, Petitioners cite Willhoff for disclosing the use of an "RSSI average to determine when a handoff condition is to be checked" in a cellular system. Pet. at 38 (quoting Willhoff at Abstract, 9:53-56). Petitioners then argue that a POSITA would have understood, or found it obvious, that a timer is used to measure the RSSI "window." Pet. at 38-39. Petitioners' proposed combination of Chaskar and Willhoff would fail to yield the Challenged Claims because Chaskar's and Willhoff's signal strength measurement techniques with "averaging windows" are categorically different from the claimed "time windows" during which measurement values are compared to a threshold value.

recites "wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to an active mode, wherein the timer is activated to establish a time window of a predefined size" (limitation [37.c], *id.* at 10:50-55).

Signal strength averaging windows do not satisfy the claimed time windows. Chaskar describes the use of “signal strength **averaging** windows” and “having different values for the widths of **averaging** windows.” Chaskar at [0076]-[0077] (emphasis added). Willhoff describes two similar types of signal strength averages: a long term average and a short term average. Willhoff at 6:9-10. The long term average is essentially a moving average “computed by averaging samples” contained in a so-called “window of time.” *Id.* at 9:56-62, 7:27-29 (describing the mobile station maintains “a running average (i.e. the long term average) of the last five signal strength measurements”) . The short term average is also an average of signal strength samples, but an “average over a smaller window of time.”² *Id.* at 9:59-61. But these so-called “windows of time” refer to a range of past measurement samples

² Willhoff interchangeably uses the terms “short term value,” “short term average,” “short term sample rate,” and Second Stage Sample Rate (SSSR). *Compare* Willhoff at 4:65-5:2 (“Referring to FIG. 1, curves for both short term values (individual samples) 102 and a long term (five sample) average 104 are shown indicating the strength of a received signal.”) *with id.* at 5:3-5 (“the long term average generally tracks the trend of the short term average”); *id.* at 6:9-10, 10:42-45, 10:56-57; *id.* at 13:58-62 (independent claim 1 reciting “short term average value”).

that Willhoff's technique uses to calculate the signal strength averaged over a backward-looking sliding window of measurement samples.

These types of moving averages seen in Willhoff and Chaskar do not use the type of "timer" that, for example, starts at a particular moment in time and is forward-looking. Indeed, there is no timer of predetermined size set because, as Willhoff explains, the short and long term averages are continuously measured and ***indefinitely*** compared to each other. Willhoff depicts its approach to collecting past measurement samples in Figures 15A and 15B. Here, Willhoff discloses long term and short term sample buffers are used to store the many samples used in calculating the long term and short term averages:

FIG. 15a

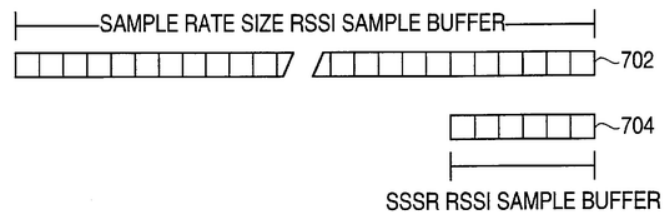
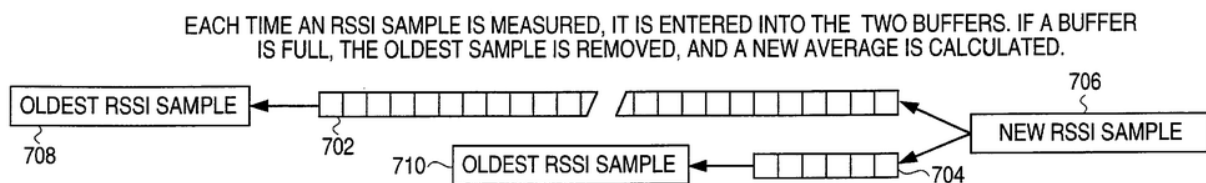


FIG. 15b



Willhoff at FIGs. 15A and 15B; *id.* at 12:5-12 (describing example buffers sized to store 160 past samples long term, and 5 past samples short term).

Each time an RSSI sample is measured, the sample is saved and entered into two buffers, one associated with a long term average (item 702) and another buffer associated with the short term average (item 704). *Id.* at 12:61-13:2. The “window of time” of these signal strength averages is the span of time defined by the time that the oldest sample in the buffer was recorded and the time that the newest sample in the buffer was recorded. *Id.* And this window slides over time because Willhoff teaches that if the buffer is full, the oldest samples (708) are discarded, and a new average is calculated. *Id.*

Contrary to Petitioners' argument, a POSITA would not have understood that a timer is used to measure the “window of longer ‘width’,” because no such window is actually measured. Pet. at 38. Willhoff's long term average is computed by averaging samples “contained in a particular window of time,” but Willhoff does not use a timer to establish or measure that “particular window of time.” *Id.* For example, Willhoff describes an example long term average having a width of “3.2 seconds,” but Willhoff does not actually describe measuring a 3.2 seconds window of time. Willhoff at 12:5-10. Instead, the long term average is composed of a buffer storing signal samples that happened to be collected during the last 160 intervals of 20 ms. *Id.* No timer is set for measuring 3.2 seconds. Petitioners extensively rely on expert testimony to argue a POSITA's understanding of a necessary “timer”

implementation, but none of this testimony addresses this deficiency. Pet. at 38; see Ex. 1003 at ¶ 115 (citing Exs. 1018, 1019).

In contrast to the Challenged Claims, Willhoff describes that when both the long-term average and short-term averages exceed an appropriate threshold value, then the “trigger is . . . realized.” Willhoff. at 3:24-37, 9:15-25, 12:36-39 (“If the SSSR RSSI buffer average is less than the handoff threshold in step 504, then the conditions for a handoff trigger have been met, i.e. both the long term average and the short term signal strength values are below the threshold.”). There are no timers set and no time window during which the “trigger is . . . realized.” *Id.* Instead, the trigger triggers any time the long-term and short-term averages cross a threshold. *Id.*

Accordingly, Chaskar and Willhoff do not render obvious limitation [1.c] “wherein upon activation of a timer, the switching system causes the second communication module to change state from a sleep mode to an active mode, wherein the timer is activated to establish a time window of a predefined size” as recited in claim 1. For at least similar reasons, Chaskar and Willhoff do not render obvious limitation [1.d], also reciting activation of the timer, specifically “wherein if a Wi-Fi signal monitor detects that a Wi-Fi signal level is below a second predefined threshold value V_{th2} , the timer is activated to establish a second time window of a second predefined size T_2 .” Petitioners also fail to demonstrate Chaskar

and Willhoff render obvious the other Challenged Claims 12, 31, and 37 containing similar “timer” limitations.

VII. CONCLUSION

For all of these reasons, Vasu accordingly requests that the Board deny institution of *inter partes* review of the Challenged Claims of the '281 Patent.

Respectfully submitted,

Dated: June 10, 2025

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CERTIFICATE OF COMPLIANCE WITH 37 C.F.R. § 42.24

The undersigned hereby certifies that the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE** has 3,971 words in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(b). This word count was prepared using the Microsoft Word word-processing system used to prepare this paper.

Dated: June 10, 2025

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James Hannah (Reg. No. 56,369)

Attorneys for Patent Owner

CERTIFICATE OF SERVICE

The undersigned certifies, in accordance with 37 C.F.R. § 42.6(e), and pursuant to agreement by the parties that filing with the Board through the Patent Trial and Appeal Case Tracking System (P-TACTS) constitutes electronic service, service was made on Petitioners as detailed below.

<i>Date of service</i>	June 10, 2025
<i>Manner of service</i>	Electronic Filing with the Board (james.l.davis@ropesgray.com; alexander.middleton@ropesgray.com; christopher.bonny@ropesgray.com; Samsung-Vasu-IPR-Ropes@ropesgray.com)
<i>Documents served</i>	PATENT OWNER'S PRELIMINARY RESPONSE
<i>Persons Served</i>	ROPES & GRAY LLP James L. Davis, Jr., Alexander E. Middleton, Christopher M. Bonny

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