UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

AT&T SERVICES, INC.,

Petitioner

v.

USTA TECHNOLOGY, LLC,

Patent Owner

Case IPR2025-1166
U.S. Patent No. RE47,720

PATENT OWNER'S CORRECTED PRELIMINARY RESPONSE

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2001	Complaint for Patent Infringement, Dkt. 1 in *USTA Technology, LLC. v. AT&T Inc., et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2002	First Amended Complaint for Patent Infringement, Dkt. 42 in *USTA Technology, LLC. v. AT&T Inc., et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2003	Second Amended Scheduling Order, Dkt. 41 in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2004	Scheduling Order, Dkt. 29 in *USTA Technology, LLC. v. AsusTek Comp. Inc. et al.,* No. 4:24-cv-00512 (E.D. Tex. June 7, 2024)
2005	Order on Jurisdictional Discovery, Dkt. 58 in *USTA Technology, LLC. v. Lenovo Group Limited, et al.*, No. 4:24-cv-00515 (E.D. Tex. June 7, 2024)
2006	Plaintiff's Disclosure of Asserted Claims and Infringement Contentions Pursuant to P.R. 3-1 in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2007	Joint Motion to Extend Time for Defendants to Serve P.R. 3-3, P.R. 3-4, Initial, and Mandatory Disclosures, Dkt. 47 in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2008	Defendants' Unopposed Motion for Extension of Rule 26(f) Conference and Related Deadlines, Dkt. 30 in *USTA Technology, LLC. v. Lenovo Group Limited, et al.*, No. 4:24-cv-00515 (E.D. Tex. June 7, 2024)
2009	Information Disclosure Statement, filed during prosecution of U.S. Patent App. 13/686,222, dated February 26, 2013
2010	Email from counsel for AT&T to counsel for Patent Owner, dated February 6, 2023
2011	Order granting *Ex Parte* Reexamination of U.S. Patent RE47,720 in Reexam App. No. 90/019,702, dated December 5, 2024
2012	Office Action in *Ex Parte* Reexamination, Reexam App. No. 90/019,702, dated March 31, 2025
2013	Response to Office Action in *Ex Parte* Reexamination of Reexam App. No. 90/019,702, and accompanying documents, dated June 2, 2025
2014	Notice of Intent to Issue a Reexam Certificate for Reexam App. No. 90/019,702, and accompanying documents, dated July 15, 2025

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2015	Reexam Certificate for Reexam App. No. 90/019,702, issued on August 26, 2025
2016	Appeal Statistics by Patent Trial and Appeal Board, dated April 30, 2025
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2018	Summons Returned Executed as to AT&T Services, Inc., Dkt. 9 in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2019	Notice of Voluntary Dismissal of Defendant AT&T, Inc. Without Prejudice, Dkt. 13 in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024)
2020	Burchfiel Oral History, recorded June 5, 2009
2021	U.S. Patent No. 8,233,556
2022	Defendants' Preliminary Proposed Constructions and Identification of Extrinsic Evidence Pursuant to P.R. 4-2, served on Sept. 30, 2025, in *USTA Technology, LLC. v. AT&T Mobility LLC, et al.*, No. 4:24-cv-00513 (E.D. Tex. June 7, 2024).

I. INTRODUCTION

Petitioner AT&T Services, Inc. ("Petitioner") filed a Petition for *Inter Partes* Review of 19, 22-33, 36-43, 45-58, 60-75, 77-93, and 95 of U.S. Patent No. RE47,720 ("the '720 Patent") on June 16, 2025. In addition to the reasons set forth in Patent Owner's Discretionary Denial Briefing (Paper No. 6), the Petition should be denied on the merits for at least the following reasons.

II. BACKGROUND

A. Background on Technology and '720 Patent

The '720 patent resulted from the pioneering efforts of Jerry D. Burchfiel (hereinafter "the Inventor") in the area of spectrum management in wireless networking systems. Dr. Burchfiel has been at the forefront of technological advances in networking going back to at least the 1960s through his work at Lincoln Labs at MIT and then at BBN.[1] The '720 patent represents another example of his innovations in the area of networking, and in particular, wireless networking.[2]

His efforts resulted in the development of a method and apparatus for increasing the available spectrum in a wireless network by sharing existing allocated (and in-use) portions of the RF spectrum in a manner that will minimize the probability of interfering with existing legacy users in 2002. At the time of these pioneering efforts, there was increasing demand for spectrum-based services and

[1] *See generally* Ex. 2020 (Burchfiel Oral History). BBN has been part of GTE, Verizon and Raytheon over the years.
[2] *Id.*

devices to address decreasing wireless communications network bandwidth. Moreover, managing interference levels was made particularly difficult by the greater density, mobility and variability of "next generation" (XG) radio frequency emitters. (*See* Ex. 1001 at 1:19-34.)

While the then-existing solutions for spectrum management to address increasing demand for spectrum-based services and devices sought to assign locally unoccupied portions of the RF spectrum to XG users, the FCC Spectrum Management Policy Task Force recommended that secondary users of a band are required to accept interference from primary users, and must cause no "harmful" interference to the primary users. The Task Force policy permitted secondary (e.g., unlicensed) users to radiate only enough power in an area of interest to raise the interference temperature in the band to a specified threshold T0 for the band, service, and locality, and would create an opportunity to "underlay" existing primary applications with low-power, low-impact opportunistic applications that operate below the threshold. (*See* Ex. 1001 at 1:35-53.)

However, the Spectrum Policy Task Force Report did not address how to build and configure networks and devices that comply with the proposed rules. Accordingly, the Inventor conceived of the inventions in the '720 patent as a way to describe tools, devices and applications users can build, configure and deploy in order to take advantage of the proposed spectrum policies. (*See* Ex. 1001 at 1:54-62.)

For example, the Inventor conceived of a node of a network communications system that could be configured to:

(a) Continuously carry out real-time sensing and characterization of the local spectrum usage by (potentially interfering) narrowband and-wideband emitters;

(b) Dynamically and autonomously adapt (on a time scale of milliseconds) to the local spectrum environment by selecting and controlling the waveforms (power spectral density (PSD) and Media Access Control (MAC) protocols) that its network neighbors use when transmitting to this node;

(c) Automatically carry out a closed loop power control algorithm with each neighbor to throttle back on unnecessarily high power levels, thereby enhancing Low Probability of Detection (LPD);

(d) Apply transmission security ("TRANSEC") parameters to the spread spectrum modulation process in order to enhance Low Probability of Intercept (LPI); and/or

(e) Carry out packet forwarding (routing) in a way that balances aggregate network throughput against average end-to-end delay. (This results in real time traffic, e.g., voice, being sent with higher power, minimizing latency due to channel access delays at multiple hops, and bulk traffic being sent with lower power, minimizing network self-interference, maximizing spatial reuse of frequencies and enhancing LPI/LPD).

(*See* Ex. 1001 at 2:12-38.)

The inventions of the ’720 patent address individual spectrum management devices and provide an integrated system concept for dynamic, adaptive, radio frequency spectrum assignment and use. The result is far greater spectrum efficiency, providing megabit/sec rate communications networks that can extend far beyond the capabilities of then-existing wireless networking systems and devices. (*See* Ex. 1001 at 1:66-2:7.) The inventions of the ’720 patent also provide a way to underlay new services on then-existing bandwidth allocations with minimal or no interference to, and from, existing users, by underlaying spectrum-efficient megabit rate networking onto bands allocated for other purposes, while providing up to 30 times greater throughput than then-current spectrum management systems. (*See* Ex. 1001 at 2:7-11.)

Moreover, the design of the highly advanced networking communications architecture described and claimed by the ’720 patent combines dynamic spectrum management techniques with matching adaptive networking and full exploitation of multiple transceivers per communications node. The inventions of the ’720 patent thus provide increased flexibility and scalability, and may be easily adapted for use with other forward-looking wireless communications systems and technologies. (*See* Ex. 1001 at 2:39-48.) The inventions of the ’720 patent overcome problems specifically arising out of how to design and develop tools, devices and applications

that efficiently manage spectrum resources while providing improved capabilities. (*See* Ex. 1001 at 1:54-64.)

B. Challenged Claims

1. Claim 19

While Petitioner challenges claims 19, 22-33, 36-43, 45-58, 60-75, 77-93, and 95 in its Petition, it devotes a substantial portion of the Petition discussing claim 19.

Claim 19 is directed to a method performed by Wi-Fi access points. It is reproduced below:

> 19. A method for managing interference in a radio communications network, comprising the steps of:
>
> receiving at a first node in the radio communications network an instruction transmitted from a second node in the radio communications network to avoid using a plurality of frequencies to transmit to the second node;
>
> filtering a transmission signal to remove power from the transmission signal at each frequency in the plurality of frequencies to be avoided; and
>
> transmitting the filtered transmission signal to the second node;
>
> separately from the receipt of the instruction, receiving a compressed first feedback from the second node that is based on a received power and one or more frequencies of a first signal transmitted from the first node to the second node;
>
> separately from the receipt of the instruction, receiving a compressed second feedback from a third node that is based on a received power and one or more frequencies of a second signal transmitted from the first node to the third node;

> decompressing the compressed first feedback resulting in a decompressed first feedback;
>
> decompressing the compressed second feedback resulting in a decompressed second feedback;
>
> generating one or more data structures based on the decompressed first feedback and the decompressed second feedback;
>
> wherein the filtered transmission signal is a filtered first transmission signal that is transmitted using a first frequency and an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a first power that is based on at least one of the one or more data structures; and further comprising:
>
> transmitting, using a second frequency and the 802.11-based OFDM protocol, a filtered second transmission signal, simultaneously with the filtered first transmission signal, to the third node, using a second power that is based on at least one of the one or more data structures.

In relevant part, claim 19 requires that the first node receives an instruction from a second node, receives compressed feedback from second and third nodes that characterizes receipt of first and second signals sent by the first node to the second and third nodes respectively, decompresses the compressed feedback from the second and third nodes, and simultaneously transmits filtered transmission signals to the second and third nodes using a first and second power based on the feedback received from those nodes.

III. CITED REFERENCES

Petitioner cites Walton as a supposed prior art reference, EX1007. According to its abstract, Walton is directed to "[t]echniques to achieve better utilization of the

available resources and robust performance . . . in a multiple-access MIMO system." (EX1007, Abst.) For at least the reasons discussed below, Walton, alone or in combination with the other cited references, does not teach or suggest the claimed subject matter of the '720 patent. Furthermore, Walton should not be considered prior art for this proceeding because Walton is a patent application filed in 2001, published in 2003, and then abandoned, while the priority date of the challenged claims is at least as early as 2002, before Walton's publication date in 2003.[3] (EX1007.) Because Petitioner uses Walton in each of its Grounds (*see* Pet. at 6-7), and the other cited references do not purport to cure Walton's deficiencies, Petitioner's arguments fail at the outset.

Petitioner also cites Hamabe as a reference, EX1008. According to its Background, Hamabe is directed to avoiding "the occurrence of interference between . . . signals sent using adjacent carrier frequencies." (EX1008 at [0002].) Hamabe is used as a secondary reference (*e.g.*, Pet. at 23 ("Walton does not purport to describe a complete system")) and does not cure the deficiencies of the other references with respect to the claims of the '720 patent. (*See generally* Pet.)

[3] Under *Lynk Labs, Inc. v. Samsung Elecs. Co*., 125 F.4th 1120, 1123 (Fed. Cir. 2025), Walton ***may*** be considered prior art for this *inter partes* review proceeding. However, the issue regarding whether a published and abandoned patent application qualifies as prior art is still a live issue in *Lynk Labs, Inc. v. Samsung Elecs. Co., Ltd. et al*, No. 25-308 (S. Ct. 2025).

Petitioner cites 802.11a as a reference, EX1009. 802.11a is an IEEE standard that was published in 1999. (Pet. at 7.) The 802.11a standard is referenced throughout the '720 patent and claims (*see, e.g.*, EX1001 at 7:23-25, 19:42-46, claim 44, claim 94) and thus has already been considered by the Office during prosecution.

Petitioner finally cites Gubbi as a reference, EX1020. According to its Abstract, Gubbi is directed to "quality of service enhancements . . . implemented as extensions to packet headers." (EX1020, Abst.) Gubbi is used as a secondary reference (*e.g.*, Pet. at 82 ("Gubbi explicitly teaches that its methods are 'a supplement . . .'")) and does not cure the deficiencies of the other references with respect to the claims of the '720 patent. (*See generally* Pet.)

IV. LEVEL OF ORDINARY SKILL IN THE ART

For purposes of this POPR only, Patent Owner does not contest Petitioner's definition of a POSITA but reserves the right to later offer a different definition in this or any other proceeding.

V. CLAIM CONSTRUCTION

In an *inter partes* review proceeding, "a claim of a patent . . . shall be construed using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent." 37 C.F.R. § 42.100(b).

The Petition alleges that no claim term requires express construction. (Pet. at 10.) However, this conflicts with the parallel litigation, where Petitioner identified a need for no less than seven constructions covering challenged claims 19, 22, 32, 33, 51, 52, 53, 54, 74, 75, 95, and 96. (EX2022 at 6-7.) Worse, claims 19, 52, 53, and 95 comprise all independent claims at issue and create the bases from which all of Petitioner's arguments stem. In fact, Petitioner uses arguments from independent claim 19 in every other independent-claim argument in the Petition. (*See* Pet. at 61-64, 75-78.)

Petitioner's contradictions in construction create a situation where Petitioner is using different constructions to argue invalidity with the Board while proposing narrower constructions to support its non-infringement positions in district court, thus allowing Petitioner to use different constructions for different legal standards. This is improper. *See Amgen Inc. v. Hoechst Marion Roussel, Inc*., 314 F.3d 1313, 1330 (Fed. Cir. 2003) ("It is axiomatic that claims are construed the same way for both invalidity and infringement.") Though a petitioner may take inconsistent positions between proceedings, *see 10x Genomics, Inc. v. Bio-Rad Labs, Inc*., IPR2020-00086, Paper 8 at 18 (PTAB Apr. 27, 2020)), Petitioner's gamesmanship should not be rewarded, especially where as here, Petitioner did not give the Board notice of its District Court claim construction positions. The Board has previously found that such actions run afoul of 37 C.F.R. §42.104(b)(3) because Petitioner failed to explicitly explain its construction positions or adequately justify its

contradictory claim construction positions. *See, e.g.*, *Cambridge Mobile Telematics, Inc. v. Sfara, Inc.,* IPR2024-00952, Paper 12 (P.T.A.B. Dec. 13, 2024) (informative) (denial under §42.104(b)(3) for using contradictory constructions in Petitioner and District Court regarding means-plus-function claims). The Board should do so again here.

Finally, Petitioner uses an expert in this proceeding to present testimony from the perspective of a POSITA. That testimony does not rely on any claim constructions. But in the District Court, Petitioner has disclosed a different expert to support its position that, from the perspective of a POSITA, terms should be construed to be narrower than their plain and ordinary meaning. While Petitioner has not yet served its expert's claim construction testimony, it will necessarily advance conflicting testimony from two experts (one here and one in District Court) as to the meaning of the claims and the understanding of a POSITA. A party's conflicting expert testimony should be given no weight. *See, e.g.*, *Interactive Commc'ns Int'l, Inc. v. Blackhawk Network Inc.*, IPR2024-00465, Paper 39 at 3-4 (P.T.A.B. Oct. 1, 2025) (expert's conflicting testimony grounds for reversal of final written decision).

For purposes of this Preliminary Response only, Patent Owner presents no express constructions of the claims. Patent Owner reserves the right to propose constructions of the claims should *inter partes* review be instituted.

VI. THE PETITION SHOULD BE REJECTED UNDER § 314(A) BECAUSE PETITIONER IS UNLIKELY TO PREVAIL WITH RESPECT TO ANY CHALLENGED CLAIM

A. Ground 1: Petitioner Has Failed to Show That Any Challenged Claims Are Obvious over Walton, 802.11a-1999, and Hamabe under 35 U.S.C. § 103

Petitioner has failed to show that at least the following limitations in the independent claims challenged in Ground 1 are suggested or taught by Walton alone or in view of 802.11a-1999 and Hamabe:

> [19.4] separately from the receipt of the instruction, receiving a compressed first feedback from the second node that is based on a received power and one or more frequencies of a first signal transmitted from the first node to the second node;
>
> [19.5] separately from the receipt of the instruction, receiving a compressed second feedback from a third node that is based on a received power and one or more frequencies of a second signal transmitted from the first node to the third node;
>
> [19.6] decompressing the compressed first feedback resulting in a decompressed first feedback;
>
> [19.7] decompressing the compressed second feedback resulting in a decompressed second feedback;
>
> [19.8] generating one or more data structures based on the decompressed first feedback and the decompressed second feedback;
>
> [19.9] wherein the filtered transmission signal is a filtered first transmission signal that is transmitted using a first frequency and an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a first power that is based on at least one of the one or more data structures; and further comprising:
>
> [19.10] transmitting, using a second frequency and the 802.11-based OFDM protocol, a filtered second transmission signal,

simultaneously with the filtered first transmission signal, to the third node, using a second power that is based on at least one of the one or more data structures.

1. Petitioner Does Not Provide Sufficient Evidence That the Combined References Teach "Decompressing the Compressed [First/Second] Feedback Resulting in a Decompressed [First/Second] Feedback" as Recited by Elements [19.6] and [19.7] or "Generating One or More Data Structures Based on the Decompressed First Feedback and the Decompressed Second Feedback" as Recited by Element [19.8]

Elements [19.6]-[19.8] require that compressed feedback received from a second/third node is decompressed and further, that the decompressed first feedback is used to generate one or more data structures. Petitioner's proposed combination of references does not mention decompression, much less teach decompressing first and second feedbacks or generating one or more data structures based on the decompressed first and second feedbacks as recited in claim 19 or any of its dependent claims. Instead, Petitioner's argument for this key requirement of the claims is limited to a single statement that because Walton discloses compression (EX1007, ¶323[4]) and complementary processing, "processing ***necessarily*** includes decompressing the feedback." (Pet. at 38 (citing EX1002, ¶118).) But Petitioner has not demonstrated that decompression is inherent. In fact, its expert Dr.

[4] Walton mentions compression one time. (EX1007, ¶323.) Petitioner's assertion that Walton discusses compression more than the '720 patent is baseless. (Pet. at 37.)

Shoemake omitted the word "necessarily" in his declaration when making the otherwise identical statement. (EX1002, ¶118.).

Petition at 38	**Dr. Shoemake's Declaration ¶118**
"Where original CSI processing included compressing the CSI (*id.*, [0323]), the 'complementary' processing necessarily includes decompressing the feedback. EX1002, ¶118."	"Where original CSI processing included compressing the CSI (id., [0323]), the 'complementary' processing includes decompressing the feedback."

Further, as U.S. Pat. No. 8,233,556 (the "'556 patent")—assigned to Texas Instruments, Inc.[5]—shows, "complementary processing" with respect to compressed feedback does not necessarily mean that the feedback must be ***decompressed***. Rather, the '556 patent teaches that "full channel state information" can be provided in compressed form and used for subsequent transmissions including MIMO beamforming ***without decompression***. (*E.g.*, '556 patent, EX2021, col. 7:37-51 ("Additionally, contrary to a feedback scheme that reduces overhead by returning only a subset of the channel information, **embodiments of the present disclosure *return full channel state information***, which has applications beyond beamforming. Further, the computational requirements of the transmitter are reduced because the transmitter computes the SYD of, for example, a triangular matrix rather than a full

[5] Petitioner's expert Dr. Shoemake was "Director Advanced Technology, Wireless Networking Business Unit" at Texas Instruments Inc. shortly prior to the application date for the '556 patent and should have been aware of the state of the art at that time.

matrix to generate the beamforming coefficients, and ***no decompression is required at the transmitter.***"); *id.* at 1:62-66 ("various techniques are herein disclosed for ***compressing channel state information*** **fed back from a receiving unit to a transmitting unit**. ***Decompression of the channel state information is not required*** **for use at the transmitting unit**."); 3:21-24 ("Disclosed herein are various systems and methods for performing ***transmit beamforming with compressed channel state information*** **that requires *no decompression* at the transmitter.**"); *see also* Abst.; col. 3:35-4:11; col. 5:17-23; col. 8:14-10:39; Fig. 4.)

Petitioner's assertion that "a POSITA would understand that decompressing feedback is ***necessary*** to utilize the CSI to perform MIMO preconditioning as discussed with respect to Walton in Limitations [19.8]-[19.10]" also fails for the same reasons. (Pet. at 38; *see also id.* at 39-44.) Indeed, the '556 patent discloses that decompressing was not necessary to utilize the CSI. (EX2021 at col. 3: 59-66 ("to perform transmit beamforming, the transmitter uses knowledge of the channel to adapt its signal to create a diagonalized channel. One method of adapting the signal includes singular value decomposition ('SYD') of the channel matrix: HC=UAV*, where U and V are unitary matrices, V* denotes the conjugate transpose of V, and A is a diagonal matrix of the ***eigenvalues*** of HC.").)

Petitioner does not rely on any other references in its proposed combination for these limitations and it has not argued that it would have been obvious to a POSITA to decompress the compressed feedbacks and utilize the decompressed

feedbacks in the manner claimed absent Walton's purported inherent disclosure. Accordingly, all of Petitioner's arguments fail for at least these reasons.

2. Petitioner Does Not Provide Sufficient Evidence That the Combined References Teach a Distinct "First Signal" and a "Filtered First Transmission Signal" as Recited by Elements [19.4] and [19.9]; and a Distinct "Second Signal" and "Filtered Second Transmission Signal" as Recited by Elements [19.5] and [19.10]

Claim 19 recites two pairs of distinct elements: (i) a "first signal" and a "filtered first transmission signal" (in elements [19.4] and [19.9], respectively),

> [19.4] separately from the receipt of the instruction, receiving a compressed first feedback from the second node that is based on a received power and one or more frequencies of ***a first signal*** transmitted from the first node to the second node;
>
> [19.9] wherein the filtered transmission signal is ***a filtered first transmission signal*** that is transmitted using a first frequency and an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a first power that is based on at least one of the one or more data structures;

and (ii) a "second signal" and a "filtered second transmission signal" (in elements [19.5] and [19.10], respectively),

> [19.5] separately from the receipt of the instruction, receiving a compressed second feedback from a third node that is based on a received power and one or more frequencies of ***a second signal*** transmitted from the first node to the third node;
>
> [19.10] transmitting, using a second frequency and the 802.11-based OFDM protocol, ***a filtered second transmission signal***, simultaneously with the filtered first transmission signal, to the third node, using a second power that is based on at least one of the one or more data structures.

Elements [19.4] and [19.5] further recite that the "first signal" and "second signal" have a specific purpose: the first node subsequently receives from the second and third nodes "compressed [first/second] feedback" that "is based on a received power and one or more frequencies of" the "[first/second] signal." That feedback is then used to generate data structures:

> [19.8] generating one or more ***data structures based on the decompressed first feedback and the decompressed second feedback***.

For elements [19.9] and [19.10], the "filtered [first/second] transmission signal" is generated and transmitted from the "first node" (such as an AP), using a "[first/second] power" that is ***based on at least one of one or more data structures that are generated based on the decompressed first and second feedbacks***. Therefore, the "filtered [first/second] transmission signal" is transmitted later in time relative to the "[first/second] signal."

Petitioner does not provide sufficient evidence of any disclosures in its asserted combination of references for each of these distinct elements of claim 19. To the extent it cites to the asserted references at all, Petitioner conflates the two sets of elements.

As an initial matter, Petitioner does not identify any specific signal in the proposed Walton/802.11a/Hamabe combination as a "first signal" or a "second signal." Rather, Petitioner presumes—***without evidence or argument***—that distinct "first" and "second" signals must exist and under that assumption, purports to

describe how such signals may be used. (Pet. at 36-37 ("access point 104 receives first/second feedback from terminals 106a/106n (the "second"/"third" "nodes") ***of a first/second signal*** transmitted from access point 104 to terminals 106a/106n"; "The CSI is based on a received power ***of the first/second signal***.").)

Moreover, Petitioner does not provide any evidence that each such "first" and "second" signal—and not ***other*** signals or information—is actually used to generate "compressed [first/second] feedback." Indeed, Petitioner's argument for elements [19.4] and [19.5] is limited to a discussion of "feedback," "compression," and "CSI." (Pet. at 35-37.) It fails to identify the specific "signal" (i.e., the "first" or "second" signal) that such "feedback" or "CSI" are based on, as these elements require. This deficiency is fatal to the Petition.

These shortcomings are not merely academic. Throughout the Petition, Petitioner purports to map other claim elements to specific types of information or signals transmitted between a first node and second or third nodes. For example, in connection with element [19.1], Petitioner states that "'control information' transmitted from terminal 106a (the 'second node') indicating the current 802.11 channel 'must be changed'" satisfies the requirement of an "instruction" that instructs the first node to avoid using a plurality of frequencies. (Pet. at 31-33, citing Hamabe, EX1008, ¶ 127.) Similarly, in connection with elements [19.4] and [19.5], Petitioner states that "CSI feedback" in Walton satisfies the requirement of a "compressed feedback." (Pet. at 35-37.) While Petitioner's arguments are

misplaced (*see, e.g.*, § VI.A.1 above), it is plainly aware of its burden to map each element of the challenged claims to specific disclosures in its asserted references.

Therefore, Petitioner's oversight in connection with the "[first/second] signal" elements is particularly glaring. Indeed, general reference to a "[TX/RX] MIMO/Data Processor" or signal transmission is not evidence that the proposed combination teaches the specific "[first/second] signal" used to generate the "[first/second] compressed feedback," respectively, without ever identifying which "signal" is used to generate which "compressed feedback," much less identifying the claim elements in the specific manner claimed. (*See* Pet. at 36, citing EX1007 Fig. 2A.)

Petitioner similarly fails to identify with specificity a "filtered [first/second] transmission signal" in its asserted references. For elements [19.9] and [19.10], Petitioner does not identify ***any particular*** signal as the "filtered [***first***/***second***] transmission signal." Instead, Petitioner again assumes that merely because the references teach signal transmission generally, any such signal could be a first or a second "filtered transmission signal":

> Accordingly, access point 104 may transmit to multiple terminals simultaneously on the same OFDM channel by employing multiple antennas and frequency subchannels. EX1002, ¶124. That is, access point 104 may simultaneously transmit a ***filtered first transmission signal*** to terminal 106a and a ***second filtered transmission signal*** to terminal 106n with each signal transmitted via one or more antennas of access point 104's multiple antennas and using one or more frequency subchannels of the OFDM channel.

(Pet. at 42.)

Petitioner's theories as to the claimed "filtering" only confuse the issue further. Specifically, Petitioner asserts that "Each signal is 'filtered' for the reasons discussed in Limitations [19.2]-[19.3]." (Pet. at 42.) Setting aside the lack of specificity as to the phrase "each signal," Petitioner appears to conflate the "***instruction***" of elements [19.2] and [19.3] with the requirement of elements [19.4] and [19.5] that the "filtered [first/second] transmission signal" use a "[first/second] power" based on "data structures" generated from "compressed [first/second] feedback," which are in turn derived from the claimed "***[first/second] signal***." Petitioner does not clarify whether it intends for the "instruction" itself to serve as a first or second "signal," or neither.

Petitioner's theory as to "steering matrices" does not provide any clarity. Here, Petitioner asserts that the filtered first/second transmission signals use a first/second power that is based on "steering matrices," in view of its characterization of Patent Owner's infringement contentions in the underlying litigation. (Pet. at 43-44.) Specifically, Petitioner asserts that because a "steering matrix" of the type that appears in Patent Owner's infringement contentions also appears in Walton, the "steering matrix" is a "data structure" that the power of the "filtered first/second transmission signal" is based on. This theory also fails, at least because Petitioner does not provide ***any*** evidence or argument that the "steering

matrix" in Walton is generated from "compressed first/second feedback," which is in turn derived from a "first/second signal," respectively:

> [19.2] ***filtering a transmission signal to remove power from the transmission signal at each frequency in the plurality of frequencies to be avoided; and***
>
> [19.4] separately from the receipt of the instruction, receiving a ***compressed first feedback from the second node that is based on a received power and one or more frequencies of a first signal*** transmitted from the first node to the second node;
>
> [19.5] separately from the receipt of the instruction, receiving a ***compressed second feedback from a third node that is based on a received power and one or more frequencies of a second signal*** transmitted from the first node to the third node;
>
> [19.6] decompressing the compressed first feedback resulting in a ***decompressed first feedback***;
>
> [19.7] decompressing the compressed second feedback resulting in a ***decompressed second feedback***;
>
> [19.8] generating one or more ***data structures based on the decompressed first feedback and the decompressed second feedback***;
>
> [19.9] wherein the filtered transmission signal is a filtered first transmission signal that is transmitted using a first frequency and an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a ***first power that is based on at least one of the one or more data structures***; and further comprising:
>
> [19.10] transmitting, using a second frequency and the 802.11-based OFDM protocol, a filtered second transmission signal, simultaneously with the filtered first transmission signal, to the third node, using a ***second power that is based on at least one of the one or more data structures***.

Petitioner's arguments therefore amount to little more than speculation that simply because some unspecified signals, compression, or steering matrices are disclosed in the asserted combination of references, they necessarily teach or suggest the claimed "[first/second] signal" and "filtered [first/second] transmission signal," with the specific temporal and relational attributes recited in claim 19.

Indeed, to the extent Petitioner purports to rely on Walton's Fig. 2A or 3C as showing any of the claimed signals, Petitioner again fails to identify them with specificity. At best, Petitioner annotates Fig. 2A to show an "RX MIMO/Data Processor," a "TX MIMO Processor," and a "TX Data processor." (Pet. at 36, 39.) However, Petitioner does not offer any argument or evidence for why anything in these figures shows a "***filtered*** [first/second] ***transmission signal***" as recited in the claim.

Petitioner's vague and conclusory assertions are insufficient to satisfy its burden to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim" and show a reasonable likelihood that it would prevail on a ground of unpatentability. 35 U.S.C. § 312(a)(3); *see also Wasica Finance GmbH v. Continental Automotive Systems, Inc.*, 853 F.3d 1272, 1286-87 (Fed. Cir. 2017) ("It is of the utmost importance that petitioners in the IPR proceedings adhere to the requirement that the initial Petition identify with particularity the evidence that supports the grounds for the challenge to each claim. . . . [T]he expedited nature of

IPRs bring with it an obligation for petitioners to make their case in their Petition to institute.").

Because Petitioner misapprehends these claim requirements and fails to identify a "[first/second] signal" that is distinct from a "filtered [first/second] transmission signal," it has not met its burden under § 312(a)(3) to show that elements [19.4], [19.5], [19.9], and [19.10] are present in its proposed combination.

3. Petitioner's Theories as to Dependent Claims 22-33, 36-43, 45, 46, and 49-51 Fail for the Same Reasons as Claim 19

Claims 22-33, 36-43, 45, 46, and 49-51 depend from claim 19. Petitioner's arguments as to these dependent claims fail for the same reasons as for claim 19.

4. Petitioner's Theories as to Claim 52 Fail for the Same Reasons as Claim 19

For independent claim 52, Petitioner does not advance any new arguments and refers back to its arguments for claim 19. (Pet. at 61-62.) Petitioner's arguments as to claim 52 therefore fail for the same reasons as for claim 19. For example, Petitioner does not provide sufficient evidence that its proposed combination teaches or suggests at least the following elements of claim 52:

> [52.4] wherein the instruction includes a first instruction and the filtered transmission signal includes a ***filtered first transmission signal*** that is transmitted to the second node using a first power via an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol, and further comprising:
>
> [52.7] transmitting, using a second power via the 802.11-based OFDM protocol and simultaneously with the filtered first transmission signal, the ***filtered second transmission signal*** to the third node.

For elements [52.4] and [52.7], Petitioner simply refers back to its arguments for elements [19.1] and [19.9], and [19.10] and [22.3], respectively. (Pet. at 62.) However, as set forth above in connection with [19.9], Petitioner fails to identify any signal in its proposed combination as the recited "filtered first transmission signal." Therefore, Petitioner also fails to identify a "filtered first transmission signal" as recited in element [52.4]. Similarly, as set forth above in connection with [19.10], Petitioner fails to identify any signal in its proposed combination as the recited "filtered second transmission signal" as recited in element [52.7].

Therefore, Petitioner has not met its burden to show a reasonable likelihood that it would prevail as to invalidity of claim 52.

5. Petitioner's Theories as to Claim 53 Fail

a. **Petitioner Does Not Provide Sufficient Evidence That the Combined References Teach "Decompressing the Compressed [First/Second] Feedback Resulting in a Decompressed [First/Second] Feedback" as Recited by Elements [53.6] and [53.7]**

Elements [53.6] and [53.7] require "decompressing the compressed [first/second] feedback resulting in a decompressed [first/second] feedback":

> [53.6] decompressing the compressed first feedback resulting in a decompressed first feedback; and
>
> [53.7] decompressing the compressed second feedback resulting in a decompressed second feedback;

Petitioner does not advance any new arguments for these elements and instead refers back to its arguments for elements [19.6] and [19.7], respectively. (Pet. at 63.)

However, as set forth above in connection with elements [19.6] and [19.7], the proposed combination does not teach decompressing feedback information. Therefore, Petitioner has also failed to show that its proposed combination teaches elements [53.6] and [53.7].

b. **Petitioner Does Not Provide Sufficient Evidence That the Combined References Teach a Distinct "First Signal" and a "Filtered First Transmission Signal" as Recited by Elements [53.4] and [53.8]; and a Distinct "Second Signal" and "Filtered Second Transmission Signal" as Recited by Elements [53.5] and [53.9]**

Elements [53.4], [53.5], [53.8], and [53.9] recite a "first/second signal" and a "filtered first/second transmission signal":

> [53.4] receiving a compressed first feedback from the second node that characterizes receipt of ***a first signal*** sent from the first node to the second node;
>
> [53.5] receiving a compressed second feedback from a third node that characterizes receipt of ***a second signal*** sent from the first node to the third node;
>
> [53.8] wherein the filtered transmission signal is ***a filtered first transmission signal*** that is transmitted to the second node using an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a first power that is based on the decompressed first feedback; and further comprising:
>
> [53.9] transmitting, using the 802.11-based OFDM protocol, ***a filtered second transmission signal***, simultaneously with the filtered first transmission signal, to the third node using a second power that is based on the decompressed second feedback.

For claim [53.4], Petitioner suggests for the first time that a "received pilot signal" in Walton satisfies the "first signal" element. (Pet. at 62.[6]) However, Petitioner does not elaborate on whether this "received pilot signal" is only a "first signal," a "second signal," or both. Indeed, for element [53.5], Petitioner simply refers back to element [53.4] and [19.5], but does not offer any further argument or evidence. Therefore, Petitioner's theories as to elements [53.4] and [53.5] fail for the same reasons as for [19.4] and [19.5].

Likewise, for elements [53.8] and [53.9]—which recite a "filtered first/second transmission signal," respectively—Petitioner refers back to its arguments for elements [19.9] and [19.10]. (Pet. at 63-64.) For the same reasons set forth above for elements [19.9] and [19.10], Petitioner's theories as to elements [53.8] and [53.9] also fail.

Therefore, Petitioner has not met its burden to show a reasonable likelihood that it would prevail as to invalidity of claim 53.

6. Petitioner's Theories as to Dependent Claims 54-58, 60-75, and 77-93 Fail for the Same Reasons as Claim 53

[6] While Petitioner suggests that the "received pilot signal" was "described in Limitation [19.4]," its argument for [19.4] does not contain any such references to a "received pilot signal." (*See* Pet. at 35-37.) Nor is "pilot signal" mentioned in the paragraphs of Walton that Petitioner cites for this claim element. (Pet. at 63 (citing EX1007, ¶¶174, 77, Fig. 4E).) But even assuming, *arguendo*, that a "received pilot signal" can be a "first" and/or a "second" signal as claimed, Petitioner does not identify a "filtered first/second transmission signal" with specificity, for the reasons set forth above in elements [19.9] and [19.10].

Claims 54-58, 60-75, and 77-93, depend from claim 53. Petitioner's arguments as to these dependent claims fail for the same reasons as for claim 53.

7. Petitioner's Theories as to Claim 95 Fail for the Same Reasons as Claim 19

In independent claim 95, Petitioner again refers back to its arguments regarding claim 19 for elements [95.5], [95.6], [95.7], and [95.8]. (Pet. at 78.) For at least the same reasons set forth above for elements [19.4], [19.9], and [19.10], Petitioner's theories as to elements [95.5[7]], [95.6[8]], [95.7[9]], and [95.8[10]] also fail. Specifically, Petitioner does not provide sufficient evidence that its proposed combination teaches or suggests the following elements:

> [95.5] generating a feedback based on a received power and one or more frequencies via which ***the particular signal is received***;
>
> [95.6] compressing the feedback; and
>
> [95.7] transmitting the compressed feedback from the first node to the second node, for use by the second node in determining a transmit power with which the second node transmits to the first node via at least one antenna of a plurality of antennas, while simultaneously transmitting to one or more other nodes;
>
> [95.7] wherein ***the filtered transmission signal*** is transmitted to the second node using an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol;

[7] Petitioner relies on its arguments with respect to claim element [19.4]. (Pet. at 78.)
[8] Petitioner relies on its arguments with respect to claim element [19.4]. (Pet. at 78.)
[9] Petitioner relies on its arguments with respect to claim elements [19.4], [19.9], and [19.10]. (Pet. at 78.)
[10] Petitioner relies on its arguments with respect to claim element [19.9]. (Pet. at 78.)

Furthermore, in referring back to its arguments for claim 19, Petitioner overlooks key differences between claims 19 and 95. For example, while Petitioner offers new argument concerning the "particular signal" in element [95.4]—an element not present in claim 19—Petitioner does not offer any new argument for element [95.5] or otherwise attempt to reconcile its argument for claim 19 with the requirement of a "particular signal" in claim 95.

Similarly, while Petitioner refers back to elements [19.4], [19.9], and [19.10] for element [95.7], Petitioner fails to address how those claim 19 arguments could be reconciled with a new definition of the phrase "the filtered transmission signal" in claim 95. Specifically, while claim 19 defines "the filtered transmission signal" to mean "a filtered first transmission signal that is transmitted using a first frequency and an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol via at least one antenna of a plurality of antennas, using a first power that is based on at least one of the one or more data structures," claim 95 defines the phrase simply as a signal "transmitted to the second node using an 802.11-based orthogonal frequency-division multiplexing (OFDM) protocol."

8. Petitioner's Theories as to Dependent Claim 96 Fail for the Same Reasons as Claim 95

Claim 96 depends from claim 95. Petitioner's arguments as to this dependent claims fail for the same reasons as for claim 95.

Because Petitioner fails to provide sufficient evidence that the Ground 1 references render obvious any of the challenged claims, Ground 1 fails.

B. Ground 2: Petitioner Has Failed to Show That Claims 47 and 48 Are Obvious over Walton, 802.11a, and Gubbi under 35 U.S.C. § 103

Claims 47 and 48 depend from claim 19. Petitioner does not rely on the teachings of Gubbi for elements [19.4], [19.5], [19.9], or [19.10]. (*See* Pet. at 80-84.) Therefore Ground 2 fails for the same reasons as set forth for Ground 1.

VII. CONCLUSION

Pursuant to 35 U.S.C. § 314, Patent Owner respectfully requests that the Board refuse to institute *inter partes* review for the reasons stated herein.

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CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(b) and (d), the undersigned hereby certifies that this Patent Owner Corrected Preliminary Response complies with the type-volume limitation of 37 C.F.R. § 42.24(b)(1) because, exclusive of the exempted portions, it contains 6,621 words as counted by the word-processing system used to prepare the paper.

Dated: October 30, 2025

/ Andrew Sherman /
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CERTIFICATE OF SERVICE

The undersigned certifies that the foregoing document was served on October 30, 2025, via electronic mail on the following counsel of record for Petitioners:

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