

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NOKIA OF AMERICA CORPORATION, ERICSSON INC.,
AND T-MOBILE USA, INC
Petitioners

v.

GENERAL ACCESS SOLUTIONS, LTD.,
Patent Owner

Case No. IPR2023-01416

U.S. Patent No. 6,947,477

PETITIONER'S REPLY TO PATENT OWNER'S RESPONSE

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TABLE OF EXHIBITS

Exhibit	Short Name	Description
Ex. 1001	'477 Patent	U.S. Patent No. 6,947,477
Ex. 1002	'477 File History	File History of U.S. Patent No. 6,947,477
Ex. 1003	van der Weide Declaration	Declaration of Daniel van der Weide, Ph.D.
Ex. 1004	van der Weide CV	Curriculum Vitae of Daniel van der Weide, Ph.D.
Ex. 1005	Genossar	U.S. Patent No. 6,643,321
Ex. 1006	WiMAX	IEEE 802.16.1 Draft Standard, "Air Interface for Fixed Broadband Wireless Access Systems"
Ex. 1007	Barratt '470	U.S. Patent No. 5,909,470
Ex. 1008	Barratt '490	U.S. Patent No. 5,592,490
Ex. 1009	PHS	Personal Handy Phone System, Association of Radio Industries and Businesses (ARIB) Standard, Version 2 (December 26, 1995)
Ex. 1010	Hall-Ellis Declaration	Declaration of Sylvia Hall-Ellis, Ph.D.
Ex. 1010-1	Hall-Ellis CV	Curriculum Vitae of Sylvia Hall-Ellis, Ph.D.
Ex. 1010-2	PHS MARC Record	MARC Record of Personal Handy Phone System, Association of Radio Industries and Business (ARIB) Standard, Version 2 (accessed October 8, 2023)
Ex. 1011	'477 Contentions	General Access Solutions' Disclosure of Initial Infringement Contentions Pursuant to P.R. 3-1 and 3-2, Exhibit B, "T-Mobile's Infringement of the '477 Patent"
Ex. 1012	Wang Article	Wang et al., "Forward Error-Correction Coding," Crosslink Magazine (published Winter 2001)
Ex. 1013	IBM Term Webpage	"Terms and Definitions," IBM Cloud Object Storage System, IBM.com (first published June 15, 1999)
Ex. 1014	District Court DCO	Doc. No. 34, Docket Control Order, <i>General Access Solutions, Ltd. v. T-Mobile USA, Inc.</i> , Case No. 2:23-cv-00158 (E.D. Tex.)

Ex. 1015	Caseload	U.S. District Court – Judicial Caseload Profile (Sept. 2022)
Ex. 1016	Fundamentals of WiMAX	Jeffrey G. Andrews, Ph.D., et al., <i>Fundamentals of WiMAX: Understanding Broadband Wireless Networking</i> , Prentice Hall (published October 2007)
Ex. 1017	Giallorenzi	U.S. Patent Application Publication No. 2002/0051435
Ex. 1018	60/243,980	U.S. Patent Provisional Application No. 60/243,980
Ex. 1019	60/243,972	U.S. Patent Provisional Application No. 60/243,972
Ex. 1020	Hall	U.S. Patent Application Publication No. 2002/0071384
Ex. 1021	60/243,808	U.S. Patent Provisional Application No. 60/243,808
Ex. 1022	Ertel	U.S. Patent Application Publication No. 2002/0051462
Ex. 1023	60/243,807	U.S. Patent Provisional Application No. 60/243,807
Ex. 1024	802.16 Working Group Webpage	IEEE 802.16 Working Group on Broadband Wireless Access Standards, https://www.ieee802.org/16/
Ex. 1025	Session #9 Webpage	IEEE 802.16 Working Group, 802.16 Session #9, https://www.ieee802.org/16/meetings/mtg09/ .
Ex. 1026	Session #9 Document List	IEEE 802.16 Working Group, Session #9 Document List, https://www.ieee802.org/16/meetings/mtg09/docs.html
Ex. 1027	Session #9 Attendance List	IEEE 802.16 Working Group, List of Session #9 Attendees, https://www.ieee802.org/16/meetings/mtg09/reglist.html
Ex. 1028	Session #9 Report	IEEE 802.16 Session #9 Report
Ex. 1029	Session #10 Report	IEEE 802.16 Session #10 Report

Ex. 1030	WiMAX Comments	IEEE 802.16.1-00/01r4, 584 comments (hyperlink)
Ex. 1031	WiMAX Call for Comments	IEEE 802.16 Working Group Review, Call for Comments on IEEE 802.16.1-00/01r4 “Air Interface for Fixed Broadband Wireless Access Systems,” published Sept. 29, 2000
Ex. 1032	Session #10 Webpage	IEEE 802.16 Working Group, 802.16 Session #10, https://www.ieee802.org/16/meetings/mtg10/
Ex. 1033	Session #10 Attendance List	IEEE 802.16, List of Session #10 Attendees
Ex. 1034	Eklund Declaration	Declaration of Mr. Carl Eklund
Ex. 1035	van der Weide Supplemental Declaration	Supplemental Declaration of Daniel van der Weide, Ph.D.
Ex. 1036	Claim Construction Hearing	Transcript of July 16, 2024 Markman Hearing in <i>General Access Solutions, Ltd. v. T-Mobile, USA, et al.</i> , 2:23-cv-158-JRG
Ex. 1037	Madisetti Expert Report	October 4, 2024 Second Corrected Infringement Report Volume II of Dr. Vijay Madisetti, Ph.D, in <i>General Access Solutions, Ltd. v. T-Mobile, USA, et al.</i> , 2:23-cv-158-JRG
Ex. 1038	Madisetti Depo. Tr.	September 24, 2024 deposition of Dr. Vijay Madisetti, Ph.D.
Ex. 1039	van der Weide October Declaration	Supplemental Declaration of Daniel van der Weide, Ph.D.
Ex. 1040	'810 Patent	U.S. Patent No. 6,891,810
Ex. 1041	'929 Patent	U.S. Patent No. 7,002,929
Ex. 1042	'070 File History	File history of U.S. Patent No.6,145,070

I. INTRODUCTION

The Challenged Claims of the '477 Patent are either anticipated, or rendered obvious, by the prior art identified by Petitioners in their initial Petition to Institute Inter Partes Review. Patent Owner's arguments rely on overly narrow constructions, undercut by their own expert and positions with respect to the '477 Patent. Patent Owner sets forth straw man arguments based on the allegation not that the '477 Patent is valid, but merely that Petition did not establish invalidity. Petitioners appreciate that the burden of establishing the invalidity of the '477 Patent is theirs. For the reasons set forth in the initial Petition, in the Supplemental Evidence submitted to the Board, and below, Petitioners have met that burden.¹

Patent Owner's response misrepresents two issues with respect to both Grounds 1 and 2 challenging independent claim 1: (1) whether the identified prior art included "a profile parameter storage device coupled to said profile parameter determiner"; and (2) whether the identified prior art includes "said profile parameter

¹ The Petition set forth grounds sufficient to establish that certain claims were anticipated under 35 U.S.C. § 102 by prior art reference Genossar (Ex. 1005) (Ground 1, challenged claims 1, 3-5, 8-9, 13, 15-17 and 19-20) and Barratt '470 (Ex. 1007) (Ground 3, challenged claims 1, 3-6, 8-10, 13, 15-17, 19-20). Petitioner established that the combination of Genossar and WiMAX (Ex. 1006) rendered obvious challenged claims, 10-12, 14 and 18 under 35 U.S.C. § 103(a) (Ground 2). Petitioners established that challenged claims 7 and 11-12 were obvious over the combination of Barratt '470 and Barratt '490 (Ex. 1008) (Ground 4), and that challenged claims 2, 14, and 18 were obvious over the combination of Barratt '470 and PHS (Ex. 1009) (Ground 5).

storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter.” *See generally* Paper 21. Both Genossar and Barratt ’470 disclose “a profile parameter storage device coupled to said profile parameter determiner” and a “profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter.” Patent Owner’s arguments are based on overly narrow claim constructions. Notably, Patent Owner and Patent Owner’s expert did not apply the correct construction of “coupled to” in this proceeding.

Patent Owner’s response is further incorrect regarding two challenges leveled against Grounds 3-5, relying on prior art references Barratt ’470 and PHS. First, Barratt ’470 does anticipate the claimed “channel-related parameters.” Patent Owner’s argument to the contrary improperly imports limitations from the specification into the claims. Further, Barratt ’470 in combination with PHS render obvious challenged dependent claim 18.

Patent Owner’s response is also incorrect regarding the public accessibility of the WiMAX reference, the second reference set forth in Ground 2 (“WiMAX”). WiMAX was publicly accessible before the alleged priority date of the ’477 Patent. *See* van der Weide Supplemental Declaration (Ex. 1035) and Eklund Declaration (Ex. 1034).²

² Petitioners reference the evidence previously submitted in connection with

Finally, neither Patent Owner nor Patent Owner's expert have disputed the invalidity of claims 16-17 or 19-20. For the reasons set forth in Petitioners' initial Petition, as supported herein, the Board should cancel all Challenged Claims.

II. CLAIM CONSTRUCTION

Patent Owner's response alleges that the Challenged Claims of the '477 Patent should have their plain and ordinary meaning (Paper 21, p. 10). However, Patent Owner's defense hinges on specific and incorrect constructions of certain patent claim terms, specifically "coupled to," "device for storing values," and "channel-related parameter" (see Paper 21 at 10-14, 47-48). With respect to all of these terms, Patent Owner takes an overly narrow approach that misstates the understanding of a POSITA at the time of the alleged invention, and in the case of the term "coupled to," ignores a prior agreed construction between the parties.

A. "a profile parameter storage device coupled to said profile parameter determiner"

The plain and ordinary meaning of the term "coupled to" must include items joined or connected in any way. Patent Owner agreed to this construction before the

their Motion to Submit Supplemental Information (Paper 15). *Valve Corp. v. Ironburg Inventions Ltd.*, 8 F.4th 1364, 1370 n.6 (Fed. Cir. 2021). (rejecting a patent owner's objection that documents regarding public accessibility were untimely submitted on reply because "[a] petitioner may provide evidence of public accessibility of a reference after the petition stage if the patent owner raises a challenge to public accessibility."); see also *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 14-16 (PTAB Dec. 20, 2019) (precedential).

District Court (Ex. 1036 at 33:14-21). Moreover, while Patent Owner's Expert Dr. Madisetti did not apply this construction in this proceeding, he did apply this construction in the District Court. (Ex. 1037 at ¶ 67). This construction is the plain and ordinary meaning to a POSITA "in light of the specification, prosecution history, and understanding of one skilled in the art." *Polaris Innovations Ltd. v. Brent*, 48 F.4th 1365, 1373 (Fed. Cir. 2022). However, for the first time in its post-institution response, Patent Owner submits that "[a] POSA would naturally understand that such 'coupling' can only take place between two separate and distinct components" (Paper 21 at p. 12, *compare with* Paper 8, at p. 10 ("[n]o claim construction is necessary to deny institution")). The phrase "two separate and distinct components" in fact never appears in Patent Owner's Preliminary Response. *See Axonics, Inc. v. Medtronic, Inc.*, 75 F.4th 1374, 1384 (Fed. Cir. 2023) ("We hold that where a patent owner in an IPR first proposes a claim construction in a patent owner response, a petitioner must be given the opportunity in its reply to argue and present evidence of anticipation or obviousness under the new construction").

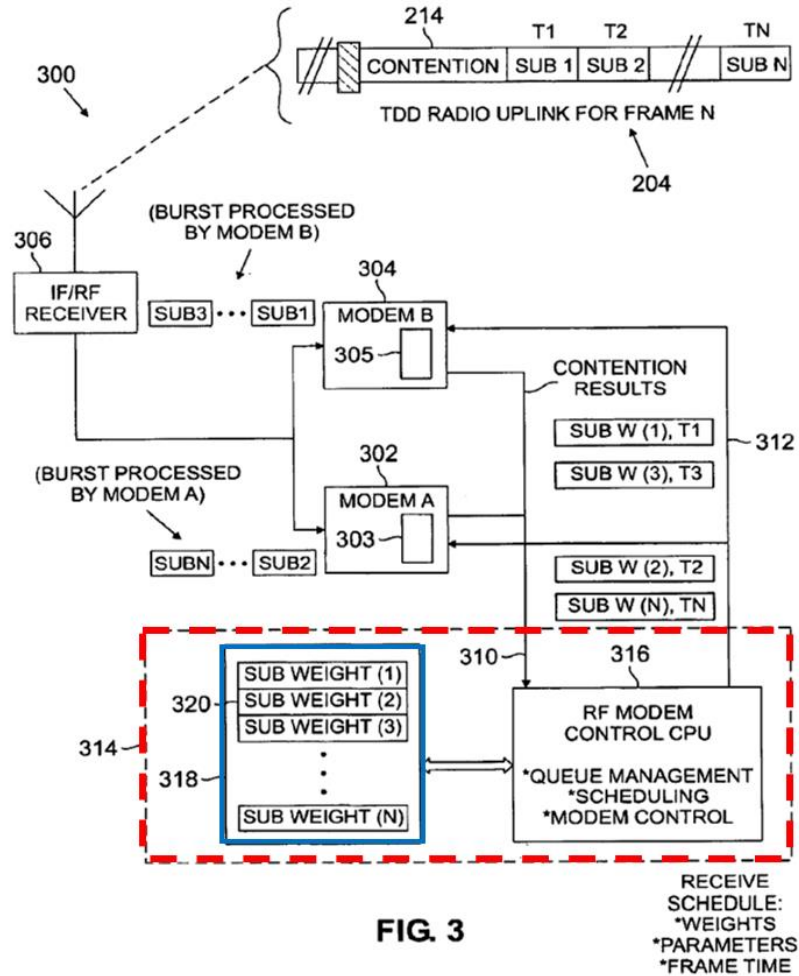
Patent Owner's new construction is incorrect and contradicts Patent Owner's prior positions in the District Court. Challenged claim 1 is illustrative. The phrase "coupled to" occurs twice in claim 1, first in "a profile parameter determiner coupled to receive an indication of an initial burst of the first burst data signal" (Ex. 1001, Claim 1.A) and then again in "a profile parameter storage device coupled to said

profile parameter determiner.” While the second use of the term “coupled to” references two components, the first describes a functional relationship, the profile parameter determine is “coupled to receive,” or coupled for the purpose of receiving. This illustrates that the term “coupled to” is not limited to a specific, direct, physical relationship, but instead represents a functional relationship (Ex. 1039 at ¶ 12). The specification similarly uses the term “coupled” to include components that are explicitly functionally coupled, noting that “[m]odem 302 and modem 304 are selectively coupled to receive uplink signals” (Ex. 1001 at 9:67-10:1) and that “[t]he modems are shown to be functionally coupled to controller 316 via lines 310, for receiving contention results, and 312 for passing parameters, frame times and weight values for the modems to apply to the received signals” (Ex. 1001 at 10:9-13). A POSITA would understand that coupling two components together describes a functional relationship that includes all components “joined or connected to in any way” (Ex. 1039 at ¶¶ 13-14).

A POSITA would understand that joining or connecting components in any way would include components that are joined within each other (Ex. 1039 at ¶ 15). For example, the claimed “profile parameter determiner” performs the functions of “receiv[ing] an indication of an initial burst of the first burst data signal” and “determining a value of at least one signal-related parameter and at least one channel-related parameter” (Ex. 1001 Cl. 1). Figure 3 of the ’477 Patent sets forth

that “[p]rofiles (not shown) are created and maintained by controller 314 in a memory such as memory device 318. The profiles include values which represent channel characteristics upon which uplink signals are transmitted as well as characteristics of the uplink signals” (Ex. 1001 at 10:18-24). The controller 314 satisfies the claimed profile parameter determiner. This is further confirmed by family members of the ’477 Patent. (*see* Ex. 1039 at ¶¶ 16-17; Ex. 1040 at 10:43-49 (“the term ‘controller’ means any device, system or part thereof that controls at least one operation, such a device may be implemented in hardware, firmware or software, or some combination of at least two of the same. It should be noted that the functionality associated with any particular controller may be centralized or distributed, whether locally or remotely.”); *see also* Ex. 1041 at 10:60-66 (same).

As shown in Figure 3, memory device 318 (shown in blue) is joined to controller 314 (shown in red).



Ex. 1001, Fig. 3 (annotated).

The '477 Patent further sets forth that “an embodiment of the present invention is implemented at the base station of a fixed wireless access communication system.... The modems are controlled by a controller, such as a base station central processing unit (CPU), to control demodulation operations thereat. The controller maintains profiles associated with the channels wherein separate ones of the data bursts are communicated” (Ex. 1001 6:50-62). The controller or base station central processing unit contains components which control demodulation

operations and components which maintain profiles associated with channels (Ex. 1039 ¶¶ 18-19).

While it is true that in discussion of Figure 4 the patent specifies that a sub-component within the controller 314, the control CPU “is operable to form a profile parameter determiner and updater” (Ex. 1001 11:10-13) it is the overall controller 314 of Figure 3 which performs the claimed steps of receiving and determining. A construction of “coupled to” which excludes components which are joined within each other would exclude the example set forth in Figure 3 and 6:50-62 of the ’477 Patent specification.

With respect to Patent Owner’s argument that the coupling must be “between two different and distinct components” (Paper 21 at 12), even this construction does not necessarily exclude components which are joined within each other. Patent Owner’s own expert agrees. When asked “can the profile storage device be a subcomponent of the profile parameter determiner?” (Ex. 1038 at 16:15-19) Dr. Madisetti responded that “I don’t have an opinion on that issue. I have to rely on what my declaration would say, is that the petitioner did not identify what the prior art that it relied upon was, the alleged profile parameter storage device or the profile parameter determiner, nor did they identify what these different and distinct components or structures were, nor did they show how they were coupled to. So that was my opinion where I agreed with the Board.” (Ex. 1038 at 16:20-17:7). With

respect to the specific question of “is [memory] 318 separate and distinct from [controller] 314? (Ex. 1038 at 19:7) Dr. Madisetti responded with “[a]gain, I don’t offer a different opinion. I don’t offer an analysis of those ideas. But as I describe, that they have to be two components which are coupled should be separate, different, and distinct” (Ex. 1038 at 19:8-12).

There is a reason Dr. Madisetti is unwilling to opine that two components “coupled to” each other *excludes* the scenario when one component is joined within the other. Such an opinion would contradict the prior agreement of the parties, the ordinary meaning of the language of challenged claim 1, and the intrinsic evidence.

On July 16, 2024, GAS agreed that the plain and ordinary meaning of “coupled to” was “joined or connected to in any way” (Ex. 1036 at 33:14-17). Despite this agreement, at his deposition on September 24, 2024, Dr. Madisetti stated he was unaware of this construction (*see* Ex. 1038 at 25:3-27:4). Instead, he testified that his understanding was “coupling can be connected” (*id.* at 25-26:1). While Dr. Madisetti failed to apply the correct construction of “coupled to” in this proceeding, he had no issue applying it in the District Court. Six days after his deposition in this proceeding, Dr. Madisetti and Patent Owner served Dr. Madisetti’s infringement report on the ’477 Patent where Dr. Madisetti applied the correct construction of “coupled to” (*see* Ex. 1037 at ¶ 67).

Under the proper construction of “coupled to”, i.e., joined or connected to in any way, the profile parameter storage device may be joined within the profile parameter determiner (Ex. 1039 ¶ 20). Moreover, the fact that the profile parameter storage device and the profile parameter determiner are listed separately in the claims also does not preclude a construction in which one component is joined within the other. There is no “*per se* rule that separately listed claim elements are distinct components.” *Google LLC v. Ecolfactor, Inc.*, 92 F.4th 1049, 1058 (Fed. Cir. 2024) (distinguishing *Becton Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010)). In *Ecolfactor*, the Federal Circuit held that the Board’s reliance on *Becton* to support a narrow construction was improper, as the patent supported “a broader [construction] which... allow[ed] for any of the five claimed inputs to potentially be used to calculate another claimed input.” *Ecolfactor* at 1058. It is the same here. The “coupled to” language does not preclude an arrangement in which the profile parameter storage device is joined within the profile parameter determiner.

B. “said profile parameter storage device for storing values representative of the at least one signal-related parameter and the at least one channel-related parameter.”

Patent Owner again sets forth an overly narrow construction of the storage device of challenged claim 1. The plain and ordinary meaning of that phrase does not require the signal-related parameter and channel-related parameter be stored

together in a single memory component (Ex. 1039 ¶ 21). The storage device may comprise multiple memory components.

Patent Owner has confirmed this plain meaning in its recently served infringement reports in the associated district court action. There, Dr. Madisetti explicitly notes that “T-Mobile’s Accused ’477 Base Stations contain internal and external memory components, which comprise the claimed profile parameter storage device” (Ex. 1037 at ¶ 212). Before the district court, Dr. Madisetti has explicitly accused multiple memory components, plural, of constituting the claimed profile parameter storage device. (Ex. 1037 at ¶ 214) (“As discussed more extensively above, other documents and testimony confirm that all the Accused ’477 Base Stations include separate and distinct memory components in which values representative of at least one signal-related parameter and at least one channel-related parameter are stored”). Moreover, Dr. Madisetti wrote:

T-Mobile may assert that, in some cases, it stores values associated with signal and/or channel related parameters in separate memories and that its base stations therefore do not include the claimed profile parameter storage device. As discussed above in the context of the potential non-infringing alternatives, *the claimed “profile parameter storage device,” may include more than one component*. Indeed, it is common for storage devices to comprise multiple memory components (e.g., hard disk drives that contain multiple NAND chips; SoCs with multiple memory portions, etc.). *To the extent that T-Mobile’s base stations store UE data on multiple memories, those memories are part of the same “device.”*

(Ex. 1037 at ¶ 373) (emphasis added).

While Petitioners are mindful the Board's instruction to focus on the understanding of a POSITA, Dr. Madisetti's accusations before the District Court are just that: an indication that a POSITA, which he alleges he is, would interpret the '477 Patent as contemplating that the storage device may comprise multiple distributed memory components. The proper construction of this claim element must encompass multiple memory components for storing the claimed values.

A. "channel-related parameter"

Patent Owner alleges for the first time in its Response that channel-related parameters should be construed to be limited, in the instance where the parameter is "antenna parameters" to include only "antenna combining parameters when antenna diversity and/or beamforming is utilized" (Paper 21 at 47-48). This construction is overly narrow and inaccurate. Further, Patent Owner has provided no evidence of lexicography or disavowal necessary to support such a narrow construction. *Thorner v. Sony Comp. Ent. Am. LLC*, 669 F.3d 1362, 1365-67 (Fed. Cir. 2012).

The '477 Patent states that "channel-related parameters *include* values of equalization weighting, antenna parameters, either at the subscriber station or at the base station, *etc.*" (Ex. 1001 at 11:62-64 (emphasis added)). This is an open-ended list. "As a general rule claims of a patent are not limited to the preferred embodiment, or to the examples listed within the patent specification." *Dow Chem. Co. v. United States*, 226 F.3d 1334, 1342 (Fed. Cir. 2000) (citation omitted). The open-ended list

of examples in the specification does not limit the term “channel-related parameters” to only examples lifted from the specification (Ex. 1039 ¶ 23). The term is also not limited to include “antenna parameters” much less to applications where such parameters are “antenna combining parameters when antenna diversity and/or beamforming is utilized” (*id.*).

III. ARGUMENT

A. Genossar Anticipates “A Profile Parameter Storage Device Coupled to Said Profile Parameter Determiner”

The thrust of Patent Owner’s argument is not that Genossar does not disclose a profile parameter storage device, but merely that Petitioners did not establish the same. As Patent Owner’s own expert set forth “it’s a failure of proof.” (Ex. 1038 at 23:17-18). But Petitioners did set forth the necessary proof to establish that Genossar discloses a profile parameter storage device coupled to said parameter determiner. This Board “should review a petition holistically” – such a review confirms that Genossar anticipates this element. *See Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1379 (Fed. Cir. 2023).

To the extent the Institution Decision agreed with Patent Owner regarding this limitation, that agreement was based on the above-discussed overly narrow construction of the term “coupled to” which excluded components which joined within each other (*e.g.*, Institution Decision at 24). Analyzing the art using the correct construction of “coupled to”, i.e., “joined or connected to in any way”,

reveals that not only does Genossar anticipate the limitations of Claim 1.C, but also that Petitioners set forth sufficient evidence in their initial Petition.

Petitioners' original Petition stated that "Genossar teaches that equalizer controller 56, forming part of the receive portion 28 (as shown in Figure 2), 'stores the values for the equalizer coefficients and then reuses these values as an initial estimate when a new signal is received' from the same terminal station" (Paper 1, p. 17 (discussing limitation 1.A). Dr. van der Weide further set forth that the relevant values "are transferred from the equalizer controller to the stored memory" (Ex. 1003 ¶ 77). These disclosures are clearly relevant to the "coupled to" limitation, as shown by the citation to them in the Institution Decision (Institution Decision at 24).

This disclosure, that the equalizer controller 56 forms part of the receive portion, sets forth the "coupled to" relationship of claim limitation 1.C. Further, the discussion of the transfer of the relevant values to the stored memory again sets forth that the memory components such as the equalizer controller 56, stored memory, and PLL 66, which serve as the claimed profile parameter storage device, are functionally coupled to the determining device which generates the relevant values. The original Petition adequately set forth that the memory components which serve as the claimed profile parameter storage device are joined or connected to in any way, to the claimed profile parameter determiner. Genossar anticipates this claim limitation (see Ex. 1039 ¶ 24).

B. Barratt '470 Anticipates “A Profile Parameter Storage Device Coupled to Said Profile Parameter Determiner”

Patent Owner's position with respect to Barratt '470 misunderstands the nature of Petitioners' articulated inherency argument. The original Petition sets forth that Barratt '470 “necessarily includes a ‘profile parameter storage device’ for storing these parameter values... as required by Claim [1.C]. The position set forth is not merely that the profile parameter storage device is necessarily included, but that it is necessarily included as required by Claim 1.C. Just as claim 1.C. requires that the storage device be joined or connected to the profile parameter determiner in any way, that same joining or connection of the storage and components in Barratt '470 is necessarily present. A storage device inherently cannot store that which it does not receive. To the extent the Institution Decision found otherwise, again, this was based on the above-discussed overly narrow construction.

First, to establish an inherent disclosure of a profile parameter storage device coupled to the profile parameter determiner, under the correct construction, Petitioners need only establish that the profile parameter storage device is joined or connected in any way to the profile parameter determiner. There is no arrangement of the profile parameter storage device of Barratt '470 and the profile parameter determiner of Barratt '470 that would not meet the claim limitation of joined or connected in any way, because the profile parameter storage device must be coupled to the determiner in some way in order to obtain the values from the determiner in

some way. Even if, as alleged by Patent Owner, Barratt '470 stored the at-issue values in two separate memory components, or in a subcomponent of the profile parameter determiner (*see* Paper 21 at 43), such disclosure would anticipate this limitation, as both such options disclose a profile parameter storage device that is joined or connected in any way to the profile parameter determiner. With respect to the hypothetical disclosure of a profile parameter storage device comprised of multiple components, as discussed above, the profile parameter storage device may comprise separate memory components. Moreover, Patent Owner's own expert has stated that a profile parameter storage device comprised of multiple components satisfies this limitation. (Ex. 1037 at ¶¶ 212-214, 373). The plain and ordinary meaning of "coupled to" would also encompass the connection if the storage device was a subcomponent of the profile parameter determiner.

Second, Petitioners did indicate the component, DSP 117, which "maintains values associated with the signals received during that timeslot, including: an initial weight matrix, frequency offset, and time alignment parameters" (Ex. 1003 ¶ 135 (citing Ex. 1007 at 8:36-61, 16:17-17:7, 24:24-28), *see also* ¶ 172). Barratt '470 is explicit that each DSP 117 is a "Motorola Inc., DSP56301" (Ex. 1007 at 24:40). A Motorola Inc. DSP56301 has memory components capable of maintaining the at-issue values (Ex. 1039 at ¶ 29; Ex. 2004 at 27:9-18 ("Barratt is doing an almost textbook-level disclosure of how these antenna weights are processed. And again,

without reading that entire text into the record, it's my opinion that it is teaching how to process these antenna signals per slot in Motorola DSPs. It – the disclosure is replete with citations to complex weight vectors and how these are part of – how updating them is part of a loop.”).

As set forth in the Motorola DSP56301 datasheets submitted to the USPTO during prosecution of other patents, the Motorola DSP56301 includes a “Memory Expansion Area” with a “Program RAM... & Instruction-Cache”, an “X Memory RAM” and a “Y Memory RAM” (Ex. 1042 at 56). These components are shown in blue below. This datasheet was considered by the USPTO on November 18, 1998, well before the earliest alleged priority date of the '477 Patent (Ex. 1042 at 55 (listing “Motorola Semiconductor Technical Data, Advance Information DSP56301, pg. 01, Motorola Inc., 1995” and “Date Considered 11/18/98”); Ex. 1039 at ¶ 27).

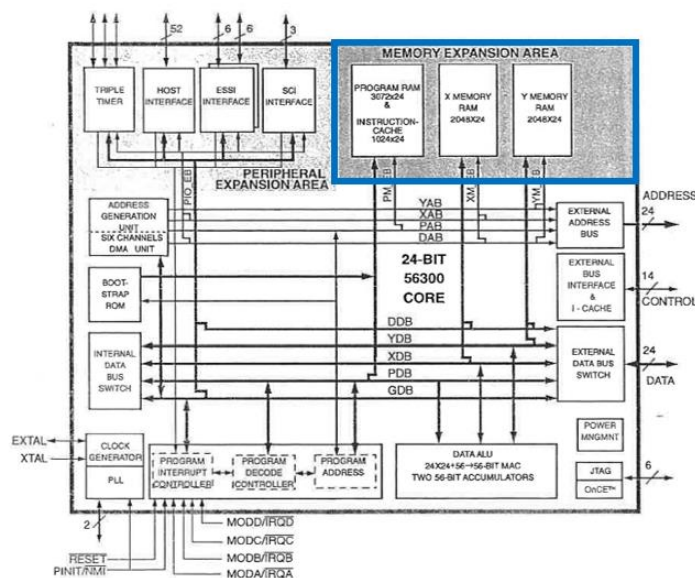


Figure 1 DSP56301 Block Diagram

OnCE™ is a trademark of Motorola, Inc.



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Ex. 1042 at p. 56 (annotated).

These memory components would have “maintained” the at-issue values and were “coupled to” the other components of the DSP56301 in that they were joined within that device. Under the correct construction, Petitioners identified the claimed “profile parameter storage device coupled to said profile parameter determiner.” This limitation is anticipated by Barratt ’470 (*see* Ex. 1039 ¶¶ 26-29).

C. Genossar Anticipates “Said Profile Parameter Storage Device for Storing Values Representative of the at Least One Signal-Related Parameter and the at Least One Channel-Related Parameter”

As discussed above, the plain and ordinary meaning of this claim limitation would encompass storing the at-issue parameter values on multiple memory components which collectively constitute the profile parameter storage device. Under that construction, the teachings in Genossar that the carrier frequency offset (reflecting the claimed signal-related parameter) is stored in at least the PLL 66 (Ex. 1005 at 11:61-65, 13:37-45) and “stored memory” (Ex. 1005 at 18:52-56) and that the equalizer coefficients (reflecting the claimed channel-related parameter) are stored in at least the equalizer controller 56 (Ex. 1005 at 11:28-30, 11:38-40, 13:37-45) anticipate this claim limitation as they are both part of the profile parameter storage device comprised of those memory components.

D. Barratt ’470 Anticipates “Said Profile Parameter Storage Device for Storing Values Representative of the at Least One

Signal-Related Parameter and the at Least One Channel-Related Parameter”

Under the plain and ordinary meaning, the teaching in Barratt '470 that frequency offset (reflecting the claimed signal-related parameter (Ex. 1003 ¶ 138)) and the antenna weights (reflecting the claimed channel-related parameter (Ex. 1003 ¶ 143)) are both used in a “recursive loop... with starting estimate of w_r and of the alignment and frequency offset obtained from the processing of the same signal on the previous frame” (Ex. 1006, 16:32-17:7) is sufficient to anticipate this limitation. Patent Owner’s complaint that Barratt '470 does not provide an explicit block where these at-issue parameters are stored is a red herring. For the parameters from the “same signal on the previous frame” to be used, they must be stored in a storage device. A proper construction of this claim limitation encompasses storage in any location or combination of locations, so long as the parameters stored therein are available to the profile parameter determiner by a functional coupling. As the parameters are used in the estimating method of Barratt '470, they are so available.

Further, as discussed above, Barratt '470 discloses a Motorola DSP56301 (DSP 117) which maintains the at-issue values (Ex. 1039 at ¶ 31). The memory components of DSP 117 would inherently store “the at least one signal-related parameter and the at least one channel-related parameter.” Barratt '470 anticipates this limitation.

E. Barratt '470 Discloses Channel-Related Parameters

Patent Owner alleges that the antenna weights of Barratt '470 do not constitute a channel-related parameter. Petitioners note that the question of the proper construction of the claim term “channel-related parameters” was first raised in Patent Owner’s post-institution Response. As discussed above, Petitioners do not agree that the language in the specification at 6:16-18 so limits the definition of channel-related parameters. Under a proper construction, the antenna parameters of Barratt '470 anticipate the claimed channel-related parameters of the '477 Patent. The antenna parameters of Barratt '470 are based on the channel environment as they address co-channel interference in the disclosed spatial processing techniques (Ex. 1007 at 1:35-2:14, 2:47-51; Ex. 1039 at ¶ 32). The antenna weights or weight vectors are representative of channel conditions for each remote terminal (Ex. 1039 ¶ 32). However, Patent Owner’s position is incorrect even under Patent Owner’s (overly narrow and incorrect) construction.

Patent Owner’s sole evidence that the antenna parameters of Barratt '470 do not qualify as “channel-related parameters” is a deceptive citation to two sentences pulled from an almost three-page long excerpt of the deposition of Dr. van der Weide (Paper 21 at 48). Dr. van der Weide did not state that the antenna parameters of Barratt '470 are not used in instances of “antenna diversity and/or beamforming is utilized” (Exhibit 1001 at 6:16-18). He in fact said the opposite, that Barratt '470 is

“concerned with the effects of co-channel interference that could arise from this multiplexing approach that uses multiple spatial – spatially diverse signals. So to make a long story short, Barratt is not limiting its teaching to either diversity or beamforming but is discussing them in the context of SDMA” (Ex. 2004 at 46:5-13). Barratt ’470’s teachings regarding SDMA are broader than antenna diversity and/or beamforming. The antenna values disclosed in Barratt ’470 anticipate the channel-related parameters of challenged claim 1.

F. Barratt ’470 and PHS Render Obvious Challenged Claim 18

Challenged claim 18 states:

The method of claim 16 wherein the receiving station is operable in a communication system in which communication protocols include a contention period and wherein the initial burst of the first burst data signal responsive to which the at least one signal-related parameter and the at least one channel-related parameter are determined is transmitted to the receiving station during the contention period.

Petitioners set forth that this claim was rendered obvious for the reasons set forth regarding challenged claim 2 (Paper 1 at 68). Patent Owner alleges that this explanation, along with the explanation regarding challenged claim 16, fails to explain the mapping of the parameters of the prior art to the parameters of the challenged claims (Paper 21, citing Institution Decision). Respectfully, the Institution Decision misunderstands the position of the Petition.

As set forth above and in the original Petition, Barratt ’470 discloses the use of both signal-related parameters and channel-related parameters. Barratt ’470

further sets forth that “[t]wo types of logical channels exist, logical control channels (LCCH) involved in initializing a communications link, and service channels (SCH) involved in ongoing communications” (Ex. 1007 at 8:28-31). The LCCH of Barratt ’470 serves as the claimed contention period, as PHS discloses that this logical channel “performs random access with slotted ALOHA” (Ex. 1009, 59). The information exchanged during this contention period includes information regarding frequency and timeslot for forthcoming communications (Ex. 1007 at 8:36-47). The disclosed timeslot parameters are channel-related because it defines the structure of physical channel on which communication of the first burst data will transmit. The frequency parameter is signal-related because it defines the frequency with which the signal will be transmitted. This combination discloses both signal-related and channel-related parameters. Further, based on these disclosures, it would also be obvious to one of skill in the art that additional signal-related and channel-related parameters and additional signal-related and channel-related parameters could be exchanged during this period.

G. WiMAX is publicly available prior art.

WiMAX is a reference supporting Ground 2. Patent Owner maintains its prior challenge regarding whether WiMAX was publicly accessible before January 19, 2001, and qualifies as prior art under § 102(a) (Paper 21 at 31-32).

Based upon controlling precedent Petitioners may provide additional evidence

of public accessibility. *Valve Corp. v. Ironburg Inventions Ltd.*, 8 F.4th 1364, 1370 n.6 (Fed. Cir. 2021). (rejecting a patent owner’s objection that documents regarding public accessibility were untimely submitted on reply because “[a] petitioner may provide evidence of public accessibility of a reference after the petition stage if the patent owner raises a challenge to public accessibility.”); *see also Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 14-16 (PTAB Dec. 20, 2019) (precedential).

Exhibit 1035, the van der Weide Supplemental Declaration, addresses the public accessibility of WiMAX. Three separate U.S. Patent Applications filed prior to the earliest alleged priority date of the ’477 Patent, each related to the transmission of signals in a wireless access system, reference WiMAX (Ex. 1035 at ¶¶ 11-23). This circumstantial evidence confirms that in the fall of 2000, prior to the priority date of the ’477 Patent, POSITAs in the field of wireless access were not only aware of, but had in fact accessed and reviewed, WiMAX (*e.g.* Ex. 1035 at ¶ 14 (discussing the PHY structure of WiMAX)).

Exhibit 1034, the Eklund Declaration, also addresses the public accessibility and the prior art status of WiMAX. Mr. Eklund himself was personally familiar with WiMAX, and confirmed its public availability no later than September 29, 2000 (Ex. 1034 at ¶¶ 12-13). Mr. Eklund personally recalled that following the completion of the relevant working group session, WiMAX was drafted and made accessible to the

public (Ex. 1034 at ¶ 29). Mr. Eklund confirmed that documents like WiMAX were not password protected, and were accessible to the public (Ex. 1034 at ¶ 23). Mr. Eklund also stated that the WiMAX standard was downloaded over 20,000 times by November 2000, generating almost 600 technical comments (Ex. 1034 at ¶ 40). This rate of download and comment demonstrates WiMAX's public accessibility before the alleged priority date of the '477 Patent of January 19, 2001.

While Petitioners disagree with the evidentiary challenges by Patent Owner, the supplemental information presented here responds to the challenges by Patent Owner. Moreover, Exhibits 1017-1035 do not change the evidence on which Petitioners relied in the Petition. Petitioners submitted the original van der Weide Declaration with the Petition. In Exhibit 1003, Dr. van der Weide discussed the public accessibility of WiMAX and specifically named Carl Eklund as an industry member who directly worked on and facilitated the production of the draft standard and had further knowledge of its importance and public accessibility. *See* Ex. 1003 at fn. 5. Petitioners' Supplemental Evidence merely provides specificity to the same facts that Patent Owner has been aware of since the Petition was filed.

IV. ADDITIONAL CLAIMS

For the reasons set forth herein, and in Petition's initial Petition, Barratt '470 anticipates claims 1, 3-6, 8-10, 13, and 15-17, and 19-20. As set forth herein and in Petitioners' initial Petition, Barratt '470 in combination with Barratt '490 renders

obvious claims 7, 11, and 12, and Barratt '470 in combination with PHS renders obvious claims 2, 14, and 18.

For the reasons set forth herein, and in Petition's initial Petition, Genossar anticipates claims 1, 3-5, 8, 9, 13, 15-17 and 19-20. As set forth in herein and in Petitioners' initial Petition, Genossar in combination with WiMAX renders obvious claims 2, 10-12, 14, and 18.

V. CONCLUSION

The Challenged Claims of the '477 Patent are anticipated or rendered obvious. The Board should cancel all Challenged Claims.

Dated: October 14, 2024

Respectfully submitted,

By: /John D. Haynes/

John D. Haynes, Reg. No. 44,754

CERTIFICATE OF SERVICE

The undersigned certifies service that Petitioner served a copy of the foregoing MOTION TO SUBMIT SUPPLEMENTAL INFORMATION by filing this document through the P-TACTS Filing System as well as sending a copy via electronic service (as agreed by counsel for Patent Owners) on the following:

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Dated: October 14, 2024

By: /John D. Haynes/
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Case No. IPR2023-01416

U.S. Patent No. 6,947,477

CERTIFICATION UNDER 37 C.F.R. §42.24

Under the provisions of 37 CFR §42.24, the undersigned hereby certifies that the word count for the foregoing Petition for inter partes review totals 5,557 words, which is less than the 5,600 allowed under 37 CFR §42.24(c)(1).

Dated: October 14, 2024

By: /John D. Haynes/
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