

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

WILUS INSTITUTE OF STANDARDS
AND TECHNOLOGY INC.,

Plaintiff,

v.

HP INC.,

Defendant.

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CIVIL ACTION NO. 2:24-CV-00752-JRG
(LEAD CASE)

WILUS INSTITUTE OF STANDARDS
AND TECHNOLOGY INC.,

Plaintiff,

v.

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

Defendants.

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CIVIL ACTION NO. 2:24-CV-00746-JRG
(MEMBER CASE)

WILUS INSTITUTE OF STANDARDS
AND TECHNOLOGY INC.,

Plaintiff,

v.

ASKEY COMPUTER CORP. and ASKEY
INTERNATIONAL CORP.,

Defendants.

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CIVIL ACTION NO. 2:24-cv-00753-JRG
(MEMBER CASE)

WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,	§	
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<i>Plaintiff,</i>	§	
	§	
v.	§	CIVIL ACTION NO. 2:24-CV-00764-JRG
	§	(MEMBER CASE)
HP INC.,	§	
	§	
<i>Defendant.</i>	§	
	§	

WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,	§	
	§	
<i>Plaintiff,</i>	§	
	§	
v.	§	CIVIL ACTION NO. 2:24-CV-00765-JRG
	§	(MEMBER CASE)
SAMSUNG ELECTRONICS CO., LTD. and SAMSUNG ELECTRONICS AMERICA, INC.,	§	
	§	
<i>Defendants.</i>	§	
	§	

WILUS INSTITUTE OF STANDARDS AND TECHNOLOGY INC.,	§	
	§	
<i>Plaintiff,</i>	§	
	§	
v.	§	CIVIL ACTION NO. 2:24-CV-00766-JRG
	§	(MEMBER CASE)
ASKEY COMPUTER CORP. and ASKEY INTERNATIONAL CORP.,	§	
	§	
<i>Defendants.</i>	§	
	§	

MEMORANDUM CLAIM CONSTRUCTION OPINION AND ORDER

In these consolidated patent cases, Wilus Institute of Standards and Technology Inc. alleged infringement by HP Inc., Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (together, “Samsung”), and Askey Computer Corporation and Askey International Corp. (together, “Askey”). The allegations concern 13 patents related to wireless communication methods and devices. HP, however, is no longer a party. *See* Order, Dkt. No. 127 (granting Wilus’s and HP’s joint motion to dismiss their claims against one another).

The number of claim-construction disputes has significantly decreased in the last two months. On November 4, 2025, Wilus filed its opening claim-construction brief, Dkt. No. 179, which presented 14 disputes from the asserted patents. In their responsive brief, Dkt. No. 188, Askey and Samsung withdrew many of their positions, which reduced the number of disputes to only two terms. More recently, the parties stipulated the meaning of one of those terms, Dkt. No. 202, leaving a single dispute between Wilus and Samsung for the Court to resolve—the scope of “setting a timer” in related U.S. Patents 11,116,035 and 11,516,879.

Specifically, the dispute relates to whether the action of “setting a timer” in the claims includes *starting* that timer or, as Samsung argues, whether it is simply the act of assigning a timer value. Having considered the parties’ briefing on that dispute, along with arguments of counsel at a December 16, 2025 hearing, the Court concludes the phrase includes the act of starting the timer.

I. LEGAL STANDARDS

“[T]he claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). As such, if the parties dispute the scope of the claims, the court must determine their meaning. *See, e.g., Verizon Servs. Corp. v. Vonage Holdings Corp.*, 503 F.3d 1295, 1317 (Fed. Cir. 2007) (Gajarsa, J.,

concurring in part); *see also Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996), *aff'g*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc).

Claim construction, however, “is not an obligatory exercise in redundancy.” *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997). Rather, “[c]laim construction is a matter of [resolving] disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims” *Id.* A court need not “repeat or restate every claim term in order to comply with the ruling that claim construction is for the court.” *Id.*

When construing claims, “[t]here is a heavy presumption that claim terms are to be given their ordinary and customary meaning.” *Aventis Pharm. Inc. v. Amino Chems. Ltd.*, 715 F.3d 1363, 1373 (Fed. Cir. 2013) (citing *Phillips*, 415 F.3d at 1312–13). Courts must therefore “look to the words of the claims themselves . . . to define the scope of the patented invention.” *Id.* (citations omitted). The “ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, *i.e.*, as of the effective filing date of the patent application.” *Phillips*, 415 F.3d at 1313. This “person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification.” *Id.*

Intrinsic evidence is the primary resource for claim construction. *See Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1348 (Fed. Cir. 2010) (citing *Phillips*, 415 F.3d at 1312). For certain claim terms, “the ordinary meaning of claim language as understood by a person of skill in the art may be readily apparent even to lay judges, and claim construction in such cases involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips*, 415 F.3d at 1314; *see also Medrad, Inc. v. MRI Devices Corp.*, 401 F.3d 1313, 1319 (Fed.

Cir. 2005) (“We cannot look at the ordinary meaning of the term . . . in a vacuum. Rather, we must look at the ordinary meaning in the context of the written description and the prosecution history.”). But for claim terms with less-apparent meanings, courts consider “those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean . . . [including] the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning relevant scientific principles, the meaning of technical terms, and the state of the art.” *Phillips*, 415 F.3d at 1314.

II. THE LEVEL OF ORDINARY SKILL IN THE ART

The level of ordinary skill in the art is the skill level of a hypothetical person who is presumed to have known the relevant art at the time of the invention. *In re GPAC*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In resolving the appropriate level of ordinary skill, courts consider the types of and solutions to problems encountered in the art, the speed of innovation, the sophistication of the technology, and the education of workers active in the field. *Id.* Importantly, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

Here, the parties agree a skilled artisan at the time of invention would have had “a Bachelor’s degree in electrical engineering, computer engineering, computer science, or a related field, and at least three years of experience in the research, design or development of wireless communication devices, systems, and/or networks, or the equivalent[.]” Dkt. No. 179 at 5 (noting “Wilus doesn’t dispute Defendants’ proposed definition” of a skilled artisan and quoting Lanning Decl., Dkt. No. 179-16 ¶ 31).

III. DISCUSSION

A. U.S. Patents 11,116,035 and 11,516,879

The patents, which are related and share the same specification,¹ teach improvements to wireless LAN technology. As background, the patents provide a brief history of wireless LAN protocols under the IEEE 802.11 standard, focusing on their capabilities and drawbacks. *See generally* '035 Patent at 1:46–2:48. IEEE 802.11b, for example, uses a 2.4 GHz frequency band and provides speeds up to 11 Mbps, whereas IEEE 802.11a uses a 5 GHz band with speeds up to 54 Mbps. *Id.* at 1:51–60. IEEE 802.11a, however, provides shorter communication distances relative to 802.11b. *Id.* at 1:60–62. IEEE 802.11g also uses the 2.4 GHz band, but has speeds up to 54 Mbps without the range limitation of 802.11b. *Id.* at 1:62–67. More recent standards provide even greater throughput but with other drawbacks. *See id.* at 2:1–48 (noting “IEEE 802.11ad is a transmission standard that provides a speed of a maximum of 7 Gbps by using a beamforming technology” and a 60 GHz frequency band, but that frequency band has difficulty passing through obstacles and is therefore limited to short distances).

Following this background, the patent describes the need for a “next-generation wireless communication technology” that provides high efficiency and performance in signal-dense environments. '035 Patent at 2:49–61. Given the ever-increasing number of terminals using these spectrums, the patent identifies a requirement for “a technology capable of efficiently using bandwidths by simultaneously transmitting data between a plurality of terminals and base terminals,” *id.* at 2:64–67—that is, multi-user access to the network resource.

The most relevant part of the patents to the parties’ claim-construction dispute concerns

¹ *See* '879 Patent at [63] (noting the underlying application is a “[c]ontinuation of application [n]o. 16/294,883, . . . now Pat. No. 11,116,035”).

“adjust[ing] enhanced distribution channel access (EDCA) parameters according to uplink multi-user (UL MU) transmission.” ’035 Patent at 12:35–37. According to the patent’s teachings, a terminal scheduled for UL MU transmission uses a channel access method with a lower probability of success than when it is not scheduled for such transmission, which requires a different set of EDCA parameters. *Id.* at 12:44–48. An EDCA parameter set “is a set of parameters used in the EDCA operation according to the priority of the data transmitted by the wireless communication terminal.” *Id.* at 12:49–51. In Figure 6 (below), for example, a terminal scheduled for UL MU transmission would use the MU EDCA parameter set, but otherwise use the “legacy” parameter set.

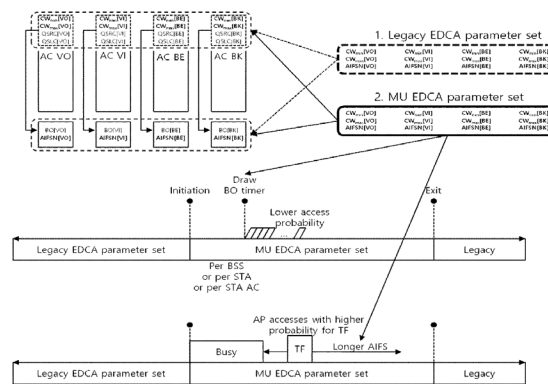


FIG. 6

Figure 14 shows how this works. In Figure 14(a) (below), the terminal receives a trigger frame (TF) from the base terminal. ’035 Patent at 20:16–18. In response, the terminal sends a trigger-based physical layer protocol data unit (PPDU), which includes a MAC protocol data unit (MPDU) corresponding to traffic identifiers TID1 and TID3, to the base terminal. *Id.* at 20:19–22. The terminal then receives an M-BA frame indicating an acknowledgment for the MPDU. *Id.* at 20:22–25. The terminal sets the MU EDCA timer “option1” when receiving the trigger frame as described above, and sets the MU EDCA timer “option2” when receiving the M-BA frame. *Id.* at 20:25–30. After those timers expire, the terminal stops using the MU EDCA parameter set and

reverts to a “legacy” EDCA parameter set. *Id.* at 20:31–38.

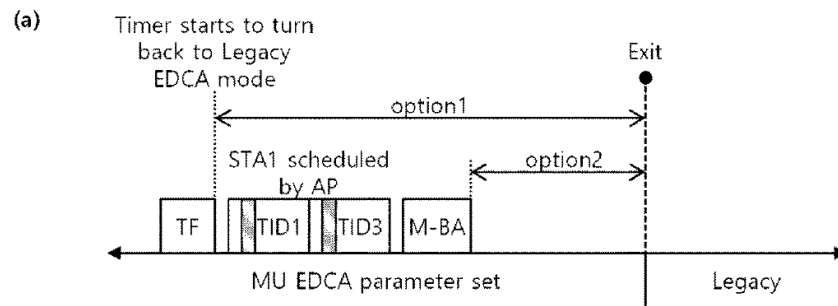


FIG. 14(a)of the patents

In Figure 14(c) (below), when the terminal receives the trigger frame, it sets the first MU EDCA timer “option1.” ’035 Patent at 20:57–59. After receiving the M-BA frame, the terminal sets a second MU EDCA timer “option2” that expires earlier than the first timer. *Id.* at 20:59–63. When the terminal receives the M-BA, the terminal reduces the first timer to expire at the same time as the second timer. *Id.* at 20:50–57. After the timers expire, the terminal reverts to the legacy parameter set.

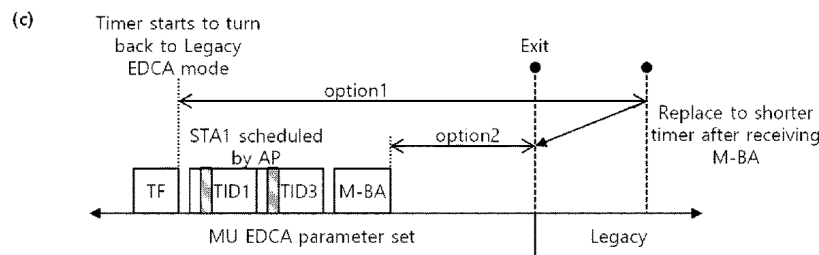


FIG. 14(c)of the patents

B. “set[ting] [a/the] . . . timer” (’035 Patent, Claims 1, 4, 5, 8; ’879 Patent, Claims 1, 4, 5, 8)

Wilus’s Construction	Samsung’s Construction
Plain and ordinary meaning; no further construction necessary	“assign[ing] a duration to [a/the] timer”

The parties' sole dispute concerns whether the act of "setting a timer," such as "option1" and "option2" in Figure 14, simply means assigning a value to the timer, as Samsung urges, or whether it includes also *starting* the timer, which is Wilus's position. For resolving that dispute, Claim 1 of the '035 Patent is representative:

1. A wireless communication terminal that wirelessly communicates with a base wireless communication terminal, the wireless communication terminal comprising:
 - a transceiver; and
 - a processor,wherein the processor is configured to:
 - transmit, to the base wireless communication terminal, a trigger-based physical layer protocol data unit (PPDU) using the transceiver,
 - switch a parameter set, which is a set of parameters used for the channel access, from a first parameter set to a second parameter set based on whether the base wireless communication terminal triggers a multi-user uplink transmission participation of the wireless communication terminal,
 - when a MAC protocol data unit (MPDU) included in the trigger-based PPDU does not request an immediate response, **set a second parameter set timer** for an access category of the MPDU when the transmission of the trigger-based PPDU ends,
 - when the MPDU included in the trigger-based PPDU requests the immediate response, **set the second parameter set timer** for the access category of the MPDU for which immediate response is received,
 - when the second parameter set timer expires, terminate an application of the second parameter set, and
 - access a channel according to a priority of data to be transmitted to the base communication terminal by the wireless communication terminal and the parameter set.

'035 Patent at 39:30–59 (emphasis added). Claim 8 recites similar limitations in a method claim. *Id.* at 40:39–65.

Samsung provides four reasons for its position. First, says Samsung, the claims use “set” in a way that precludes it from including the act of starting the timer. Dkt. No. 188 at 7. Specifically, Samsung stresses Claim 5’s recitation of “set[ting] the value” of a variable, and argues Wilus’s position would run counter to the principle that claim terms have the same meaning throughout the claims. *Id.* Second, the claims also recite “reducing” the timer, which Samsung says would be superfluous if the timer were being started when it is “set.” *Id.* at 7–8. Third, the specification uses both “set” and “start” in the context of a timer, which suggests they have different meanings. *Id.* at 8 (comparing '035 Patent at 25:5–10 (“the wireless communication terminal may apply the MU EDCA parameter set at the time point at which transmission of the trigger-based PPDU ends,” at which time “the wireless communication terminal may set the MU EDCA timer”), *with* '035 Patent at 25:28–31 (“[t]he wireless communication terminal applies the MU EDCA parameter set at the time point at which transmission of the trigger-based PPDU HE TRIG PPDU ends and starts the MU EDCA timer”)). Finally, Samsung’s expert opines its construction is the ordinary meaning of the term. *Id.* at 8–9.

Wilus replies that Samsung’s construction fails for three reasons. First, “setting a . . . timer” is readily understood by a jury, and Samsung provides no evidence it has some special technical meaning in the relevant art. Dkt. No. 190 at 1 (citing a dictionary definition for “set” of “to cause the start of”). Second, Samsung’s position is inconsistent with its approach in two IPRs where it said this term has an ordinary meaning. *Id.* at 2. Last, Samsung relies on what Wilus calls a weak claim-differentiation argument concerning Claims 5–6. *Id.* at 2–3.

The Court agrees with Wilus. As an initial matter, the Court does not find unreasonable, at

least from the perspective of a layperson, equating “setting” with “starting.” One might, for example, “set a timer” as a reminder to turn off the oven, stop watering the lawn, or pick up the kids from school. That would necessarily include both choosing for how long the timer will run and starting it.

The claim language is consistent with such an understanding. Notably, the act of “starting a timer” is never recited after the timer is “set.” Also of note, the claims end with the timer expiring and the terminal reverting to the second parameter set. ’035 Patent at 40:54–55 (“when the second parameter set timer expires, terminate an application of the second parameter set”); *see also* ’879 Patent at 40:59–60 (same). Even if the applicants intended not to limit when the timer starts, a skilled artisan would equate “setting the timer” with “starting the timer” given their recitation of both “setting the timer” and the timer expiring.

The specification supports that conclusion. Describing Figure 14, the patents explain “[i]f the MU EDCA parameter set application condition is not satisfied until a certain time elapses *from when the timer is set*,” the terminal does something else. ’035 Patent at 19:46–50 (emphasis added). Like the claim language, connecting the timer elapsing with the timer being set strongly suggests “setting a timer” includes the act of “starting the timer.” Notably, Figures 14(a) and (c) both refer to starting a timer “to turn back to Legacy EDCA mode.” In the related portion of the specification, the patent describes this as “set[ting] the MU EDCA timer option1 when receiving the trigger frame” and “set[ting] the MU EDCA timer option2 when receiving the M-BA,” ’035 Patent at 20:25–30, thus equating “setting the timer” with “starting the timer.”

Figure 15(a) (below) provides similar support. With reference to that figure, the specification explains the terminal sets the MU EDCA timer not when the trigger frame is received,

but “[w]hen the wireless communication terminal transmits [a buffer status report (BSR)]² to the base wireless communication terminal.” ’035 Patent at 21:5–7. Then, when the terminal receives the trigger frame, the terminal extends the timer to expire later. *Id.* at 21:11–16. As with Figure 14, the specification references “setting” the timer but the figure says the timer “starts,” suggesting interchangeable use of those two terms.

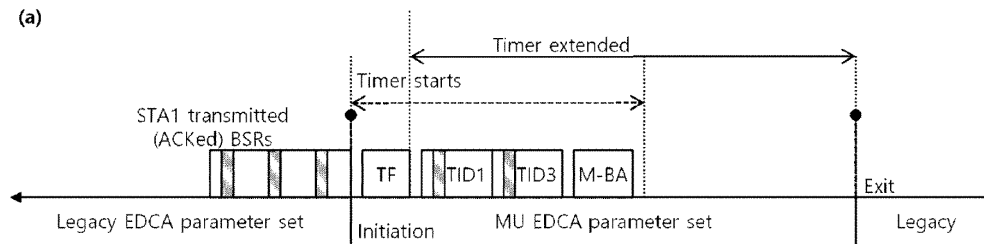


Figure 15(a)

Samsung’s arguments against Wilus’s position aren’t persuasive. First, the claims don’t use “set” in a way that clearly excludes “start.” Samsung focuses on the difference between Claim 1 and Claim 5, but Claim 5 recites setting *a value* rather than setting *a timer*. Moreover, if “setting a timer” includes both assigning a value to and then starting the timer, Claim 5’s use of setting is consistent with that meaning.

For the same reason, so is the act of “reducing” the timer in Claim 6. That claim recites “perform[ing] [a] backoff procedure of accessing a channel based on a time corresponding to a backoff timer,” “wherein the backoff timer is set based on a random integer value calculated in a contention window (CW), and is reduced when the channel is idle for a predetermined slot time.” ’035 Patent at 40:10–20. Nothing about the notion of “reducing” the timer after it has been started

² Generally, a buffer status report indicates how much data is waiting in the device’s buffer for upload. *See* ’035 Patent at 20:31–33 (explaining the terminal uses the BSR to report that “the buffer for the corresponding access category is empty”).

is inconsistent with Wilus’s position. In other words, that a timer has been started does not prevent the time remaining before its expiration from being reduced.

Regarding the specification’s reference to both “starting” and “setting” timers, on which Samsung relies for support, Dkt. No. 188 at 8 (citing *Symantec Corp. v. Comput. Assoc. Int’l, Inc.*, 522 F.3d 1279, 1289 (Fed. Cir. 2008)), the Court is not construing the specification. Thus, the presumption that different *claim* terms have different meanings is not implicated. *See Symantec*, 522 F.3d at 1289 (“when construing terms in the body of a claim, the general assumption is that different terms have different meanings” (emphasis added)); *Applied Med. Res. Corp. v. U.S. Surgical Corp.*, 448 F.3d 1324, 1333 n.3 (Fed. Cir. 2006) (“[T]he use of two terms in a claim requires that they connote different meanings. . . .” (emphasis added)). Rather, the Court is construing the disputed claim term in light of the specification, which appears to use “setting a timer” and “starting a timer” interchangeably. *See Wasica Fin. GmbH v. Cont’l Auto. Sys.*, 853 F.3d 1272, 1282 (Fed. Cir. 2017) (noting the specification’s interchangeable use of “emit” and “transmit” “equate[d] the two terms for claim construction purposes”). At the very least, the intrinsic evidence supports the notion that the former includes the latter. Accordingly, the Court construes “set[ting] [a/the] . . . timer” as “assign[ing] a duration to and starting [a/the] . . . timer.”

IV. CONCLUSION

Disputed Term	The Court’s Construction
“set[ting] [a/the] . . . timer” (’035 Patent, Claims 1, 4, 5, 8; ’879 Patent, Claims 1, 4, 5, 8)	“assign[ing] a duration to and start[ing] [a/the] . . . timer”

The Court **ORDERS** each party not to refer, directly or indirectly, to its own or any other party’s claim-construction positions in the presence of the jury. Likewise, the Court **ORDERS** the parties to refrain from mentioning any part of this opinion, other than the actual positions adopted

by the Court, in the presence of the jury. Neither party may take a position before the jury that contradicts the Court's reasoning in this opinion. Any reference to claim construction proceedings is limited to informing the jury of the positions adopted by the Court.

So ORDERED and SIGNED this 23rd day of December, 2025.



RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE