UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

GOOGLE LLC,

Plaintiff,

v.

SONOS, INC.,

Defendant.

Case No. 20-cv-03845-EMC

**CLAIM CONSTRUCTION ORDER**

Docket No. 66

## I. INTRODUCTION

This case involves three patents that Plaintiff Google accuses Defendant Sonos of infringing. On May 11, 2021, the parties appeared before the Court for a claim construction hearing. Pursuant to Patent Local Rule 4-3, the parties asked the Court to construe nine (9) terms that appear in various claims of the patents-in-suit. *See* Joint Claim Construction Brief, Appendix A (Docket No. 66). The parties stipulated to a dismissal of the one of the patents-in-suit (the '206 patent), and eight (8) terms remain for the Court's construction. Docket No. 107. The Court adopts the following constructions.

## II. BACKGROUND

### A. Patents-in-Suit

The following three patents contain the claim terms which the parties dispute for this claim construction hearing. The Court has granted the parties' stipulation of dismissal for the claims of infringement for the '206 patent. Docket No. 107.

#### 1. '187 Patent

Google is the owner of U.S. Patent No. 7,899,187, titled "Domain-Based Digital-Rights

Management System with Easy and Secure Device Enrollment," ("the '187 patent"), which was issued by the United States Patent and Trademark Office ("USPTO") on March 1, 2011. *Id.* ¶ 21. At the claim construction tutorial, the parties explained that the '187 patent is directed to a digital rights management system ("DRM system") that oversees a domain of devices (as opposed to individual devices standing alone). The parties explained that a domain is a group of devices that share rights associated with a common account for use in accessing protected content.

The '187 patent addresses the problem of confidentiality and security of protected digital content. The background states that "[t]he ease at which valuable digital content (e.g., music, games, video, pictures, and books) can be copied and shared is worrisome to content owners." '187 patent, 1:13-15 (Docket No. 1-2, Ex. 2). There are two problems with conventional DRM systems. First, "a user faces the potentially cumbersome task of registering all of his devices into a domain." '187 Patent, 1:40-42. Second, "the security of content in a domain is potentially threatened if users can remotely register devices into a domain over a long distance." '187 Patent, 1:42-45. Thus, the patent states that "a need exists for domain-based digital-rights management with easy and secure device enrollment that increases the security of content." '187 Patent, 1:45-48. In sum, the DRM system in the '187 patent is meant to address the ease and security of the new-device registration process within a domain of devices.

2. '375 Patent

Google is the owner of U.S. Patent No. 10,140,375, titled "Personalized Network Searching," ("the '375 patent"), which was issued by the USPTO on November 27, 2018. Compl. ¶ 54. This patent is directed to methods and systems for personalized network searching, synchronizing bookmarks between a client device and a server. The background of the patent states the problem it wishes to solve:

> "An Internet user often has difficulty propagating bookmarks between the various machines on which the user depends. For example, many users have a computer at work and at home. Often, the bookmarks relied on in the work setting are useful at home as well. In most cases, however, the user must manually synchronize the bookmark lists of the two machines. In addition, conventional methods of organizing bookmarks tend to be limited at best, making it difficult for the user to find a favorite site."

'375 Patent, 1:51-60 (Docket No. 1-12). The specifications state that the search engine may perform two different functions: "[t]he search engine **120** may generate the search result by *combining* the general results and the personalized results. The search engine may instead provide *separate* lists: one containing the general search result and a second containing the personalized search result." '375 Patent, 6:9-13 (emphasis added).

3. '586 Patent

Google is the owner of U.S. Patent No. 10,229,586, titled "Relaying Communications in a Wireless Sensor System" ("the '586 patent") which was issued by the USPTO on March 12, 2019. Compl. ¶ 91. The '596 patent is directed at using devices within a wireless mesh network. The patent describes a "wireless sensor unit system providing bi-directional communication between a sensor (e.g., smoke sensor, fire sensor, temperature sensor, water, etc.) and a repeater or base unit in a building protection system." '586 Patent, 1:38-42 (Docket No. 1-22, Ex. 22). At the claim construction tutorial, counsel for Google explained that mesh networks are networks that include at least two pathways to each node.

The specifications describe the process as follows:

> "When the sensor unit **102** detects an anomalous condition (e.g., smoke, fire, water, etc.) the sensor unit communicates with the appropriate repeater unit **110** and provides data regarding the anomalous condition. The repeater unit **110** forwards the data to the base unit **112**, and the base unit **112** forwards the information to the computer **113**. The computer **113** evaluates the data and takes appropriate action. If the computer **113** determines that the condition is an emergency (e.g., fire, smoke, large quantities of water), then the computer **113** contacts the appropriate personnel **120**. If the computer **113** determines that the situation warrants reporting, but is not an emergency, then the computer **113** logs the data for later reporting. In this way, the sensor system **100** can monitor the conditions in and around the building **101**.

'586 Patent, 5:26-39.

## III. LEGAL STANDARDS

A. Ordinary Meaning and Claim Construction

Claim construction is a question of law, although it may contain factual underpinnings. *Multilayer Stretch Cling Film Holdings, Inc. v. Berry Plastics Corp.*, 831 F.3d 1350, 1357 (Fed. Cir. 2016). "The purpose of claim construction is to 'determin[e] the meaning and scope of the

patent claims asserted to be infringed.'" *O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996)).

It is a bedrock principle of patent law that "the claims of a patent define the invention." *Innova/Pure Water, Inc. v. Safari Water Filtration Sys.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004). The words of a claim are generally given their "ordinary and custom meaning," which 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." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005); *see also Multiform Desiccants, Inc. v. Medzam Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998) ("[i]t is the person of ordinary skill in the field of the invention through whose eyes the claims are construed"). The inquiry into how a person of ordinary skill in the art interprets the claim term "provides an objective baseline from which to begin claim interpretation." *Phillips*, 415 F.3d at 1313. A person of ordinary skill reads 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.*

In some cases, 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." *Id.* at 1314. But other times the parties may use claim language idiosyncratically, and the Court must look to "those sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean," such as "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." *Id.* (quoting *Innova*, 381 F.3d at 1116).

Courts first look to **intrinsic evidence** because "the claims themselves provide substantial guidance as to the meaning of particular claim terms." *Id.* The context in which a claim term is used can be highly instructive, as can "[o]ther claims of the patent in question, both asserted and unasserted." *Id.* "Differences among claims can also be a useful guide in understanding the

meaning of particular claim terms." *Id.* But claims must also be read "in view of the specification," which is always "highly relevant to the claim construction analysis" and is often "dispositive." *Id.* at 1315 (internal quotations omitted); *see also Cont'l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 796 (Fed. Cir. 2019) ("the specification 'is always highly relevant to the claim construction analysis … [and] it is the single best guide to the meaning of a disputed term'") (quoting *Phillips*, 415 F.3d at 1315).

In addition to consulting the specification, courts should consider "the patent's prosecution history," which is "of primary significance in understanding the claims." *Markman*, 52 F.3d at 980. However, the Federal Circuit has cautioned that "because the prosecution history represents an ongoing negotiation between the PTO and the applicant, rather than the final product of that negotiation, it often lacks the clarity of the specification and thus is less useful for claim construction purposes." *Phillips*, 415 F.3d at 1317.

Finally, courts may consider **extrinsic evidence**, which consists of "all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises." *Id.* at 1317-18. However, extrinsic evidence is "less significant than the intrinsic record in determining the legally operative meaning of claim language." *Id.* at 1317 (internal quotation omitted).

B. Means-Plus-Function Claim Construction Under 35 U.S.C. § 112(f)

Under 35 U.S.C. § 112(f), a patentee may express a claim in terms of "means or step[s] for performing a specified function *without* the recital of structure, material, or acts in support thereof." 35 U.S.C. § 112(f) (emphasis added). Such a means-plus-function limitation must be "construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." *Id.* As the Federal Circuit has explained, § 112(f) "allow[s] patentees to express a claim limitation by reciting a *function to be performed* rather than by reciting structure for performing that function, while placing specific constraints on how such a limitation is to be construed, namely, by restricting the scope of coverage to only the structure, materials, or acts described in the specification as corresponding to the claimed function and equivalents thereof." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1347 (Fed. Cir. 2015) (en banc) (emphasis

added).

In this analysis, the Court must first determine whether the limitation in question is a means-plus-function term that is subject to § 112(f). *See id.* at 1348. Generally, the use of the term "means" creates a presumption that § 112(f) applies. *Id.* at 1349. Conversely, the absence of the term "means" creates the opposite presumption. *Id.* A party may overcome either presumption by showing that the claims either recite or do not recite a "sufficiently definite structure" to adequately perform the claimed function. *Id.* Thus, § 112(f) applies only if "the challenger demonstrates that the claim term fails to 'recite[] sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id.* at 1348 (quoting *Watts v. XL Sys., Inc.*, 232 F.3d 877, 880 (Fed. Cir. 2000)).

## IV. DISCUSSION

### A. Terms in Dispute

The parties ask the Court to construe eight (8) claim terms from the patents-in-suit.

#### 1. Term one (1): "Domain Information" ('187 Patent Claims 1, 3, 4, and 10)

| Sonos's Construction | Google's Construction | Court's Construction |
|---|---|---|
| Plain and ordinary meaning. | Information corresponding to a group of devices that share rights associated with a common account for use in accessing protected digital content. | Plain and ordinary meaning. |

At the claim construction hearing, Google informed the Court that its construction seeks to incorporate the contextual antecedent reference and eliminate confusion by clarifying that the word "domain" is not generic, but instead refers to a group of devices that share a common account for accessing protected digital content.

The Court finds that the context of the claim language already provides the specificity which Google seeks. Claim 1 of the '187 patent provides a series of steps for registering a new device to a digital-rights management system, the first step comprising "receiving domain

information corresponding to the domain of devices from a device existing within the domain of devices." '187 Patent, Claim 1, 7:65-67 (Docket No. 1-2). Thus, the claim language answers Google's concern about ambiguity, and it clarifies that the "domain information" is used in the context of an existing domain of devices which can access protected digital content.

Thus, Google's proposed construction merely repeats surrounding claim language and would render the construction superfluous and unnecessary. *See SimpleAir, Inc. v. Sony Ericsson Mobile Communs. AB*, 820 F.3d 419, 429 (Fed. Cir. 2016) ("'interpretations that render some portion of the claim language superfluous are disfavored'") (quoting *Power Mosfet Techs., L.L.C. v. Siemens AG*, 378 F.3d 1396, 1410 (Fed. Cir. 2004)). For instance, substituting Google's proposed construction for "domain information" into the claim results in the following:

> "A method for registering a new device as part of a domain of devices, which share rights associated with a common account, for use in accessing protected digital content … the method comprising the steps of: receiving ***information corresponding to a group of devices that share rights associated with a common account for use in accessing protected digital content*** …"

'187 Patent, Claim 1, 7:60-67 (Docket No. 1-2) (Google's proposed construction emphasized).

Given the plain language of the claim term, and the potential for redundancy and confusion, the Court adopts Sonos's proposed construction and holds that "domain information" should be construed under its plain and ordinary meaning.

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2. Term two (2): "Logic Circuitry" ('187 Patent, Claim 10)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| Governed by 35 U.S.C. 112, ¶ 6. Where the function is "providing the domain information to a key issuer which is separate from the domain of devices" and there is no corresponding structure. At best, the corresponding structure includes a processor or microprocessor, but this is inadequate because there is no sufficient corresponding algorithm. | Plain and ordinary meaning; not governed by 35 U.S.C. § 112, ¶ 6. To the extent § 112, ¶ 6 applies, sufficient corresponding structure is disclosed in the intrinsic evidence cited below. | Plain and ordinary meaning; not governed by 35 U.S.C. § 112(f). |

The parties agree that, because the word "means" is absent from the claim term, there is a presumption that 35 U.S.C. § 112(f) does not apply. *See Williamson*, 792 F.3d at 1348. Thus, Sonos bears the burden of proof in showing that the claim term "logic circuitry" fails to recite a "sufficiently definite structure" or else recites "function without reciting sufficient structure for performing that function." *Id.* (internal quotation omitted). Sonos must rebut the presumption by a preponderance of the evidence. *Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003).

In *Apex*, the Federal Circuit analyzed the district court's construction of claim terms in patents directed at "computer switching systems for connecting computer workstations to remote computers." *Apex Inc. v. Raritan Comput., Inc.*, 325 F.3d 1364, 1367 (Fed. Cir. 2003). One of the claims was directed toward "a programmed logic circuit coupled to the first interface that transmits the keyboard and cursor control device signals." *Id.* at 1368 (emphasis omitted). The Federal Circuit held that "the term 'circuit' with an appropriate identifier such as 'interface,' 'programming' and 'logic,' certainly identifies some structural meaning to one of ordinary skill in the art." *Id.* at 1373. It noted that "[t]he term 'circuit' is defined as 'the combination of a number of electrical devices and conductors that, when interconnected to form a conducting path, fulfill

some desired function.' Dictionary of Computing, 75 (4th ed. 1996)." *Id.* Considering this definition, even "the term 'circuit,' by itself connotes some structure." *Id.* Similarly, in *Linear Tech.*, the Federal Circuit held that "when the structure-connoting term 'circuit' is coupled with a description of the circuit's operation, sufficient structural meaning generally will be conveyed to persons of ordinary skill in the art, and § 112 P 6[1] presumptively will not apply." *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1320 (Fed. Cir. 2004).

Sonos seeks to distinguish the instant case from *Apex* and *Linear Tech.* by pointing to the specifications, which explain that logic circuitry in the preferred embodiment of the invention "*comprises* a microprocessor controller such as but not limited to a Motorola MC68328 DragonBall integrated microprocessor or a TI OMAPl 510 processor." '187 Patent, 5:61-65 (Docket No. 1-2) (emphasis added). According to Sonos, the specifications reveal that logic circuitry is part of a class of structures that is *broader* than microprocessors because it "comprises" (but is not limited to) the two microprocessors cited in the specifications. Sonos's Responsive Claim Construction Brief at 3 (Docket No. 70). Thus, because logic circuitry includes, but is not limited to, a microprocessor, the term in this context describes a class of structures that is open and unbounded. *Id.* at 4. At the claim construction hearing, Sonos argued that one cannot discern the metes and bounds of this undefined class of "microprocessors," and the claim term at issue therefore differs from the paradigmatic example of a "circuit within a device" discussed in *Apex* and *Linear Tech.*

However, the inquiry is not whether the term "logic circuitry" comprises a class of structures that is broader than a microprocessor, but whether a person or ordinary skill in the art would sufficiently understand its structure based on the context in which it is used. *Cf. Linear Tech.*, 379 F.3d at 1322 ("[t]hat the disputed term is not limited to a single structure does not disqualify it as a corresponding structure, as long as the class of structures is identifiable by a person of ordinary skill in the art"). *See also Creo Prods. v. Presstek, Inc.*, 305 F.3d 1337, 1347 (Fed. Cir. 2002) ("[u]nder our case law interpreting § 112, P 6, knowledge of one skilled in the art

[1] Before the Leahy-Smith America Invents Act added subsection headings to 35 U.S.C. § 112, this provision was referred to as § 112 paragraph 6.

can be called upon to flesh out a particular structural reference in the specification for the purpose of satisfying the statutory requirement of definiteness").

Here, a person of ordinary skill in the art would understand that there is structure to a "logic circuitry" that is more specific than "circuit" alone. The term "circuit" has been defined as "the interconnection of a number of devices in one or more closed paths to perform a desired electrical or electronic function." *Linear Tech.*, 379 F.3d at 1320 (citing Rudolf F. Graf, Modern Dictionary of Electronics 116 (7th ed. 1999)). The term "logic" is an "additional adjectival qualification[] further identifying sufficient structure to perform the claimed functions to one of ordinary skill in the art." *Apex Inc.*, 325 F.3d at 1374. This term "further narrows the scope of those structures covered by the claim and makes the term more definite." *Personalized Media Communs., L.L.C. v. ITC*, 161 F.3d 696, 705 (Fed. Cir. 1998). The terms "circuit" and "logic" are interconnected:

> "The difference between the *Linear* term "circuitry" and the claim 23 term "logic" is not significant. Several dictionaries define "logic" in terms of circuits. *See* McGraw-Hill Dictionary of Scientific and Technical Terms, 1231 (6th ed 2003) (defining "logic" as a "[g]eneral term for various types of gates, flip-flops, and other on/off circuits used to perform problem-solving functions in a digital computer"); IBM Dictionary of Computing, 396 (10th ed 1994) (defining "logic" as "[t]he systematized interconnection of digital switching functions, circuits, or devices"). Both logic and circuit suggest some structure."

*3com Corp. v. D-Link Sys.*, No. C 05-00098 VRW, 2006 U.S. Dist. LEXIS 114417, at *14-15 (N.D. Cal. Dec. 18, 2006). Thus, a "logic circuit" is a general term for a circuit (*i.e.*, a number of devices in one or more closed paths) designed to perform the problem-solving functions of modern digital computers. *Linear Tech.*, 379 F.3d at 1320; *3com Corp.*, 2006 U.S. Dist. LEXIS 114417 at *14-15.

The claim language sufficiently recites the functions to be performed by the logic circuitry in the '187 patent. It states that the logic circuitry is "for providing the domain information to a key issuer, which is separate from the domain of devices." '187 Patent, Claim 10, 9:4-5 (Docket No. 1-2). The logic circuitry "caus[es] the key issuer to issue a private key for use in accessing protected digital content." '187 Patent, Claim 10, 9:6-7. There is as much structure described

here as in *Apex* and *Linear Tech*., discussed above. A person of ordinary skill in the art would thus understand the claim term to recite a sufficiently definite class of structures for performing the function of providing domain information to a key issuer and causing that key issuer to issue a private key.

Sonos has not rebutted the presumption that § 112(f) does not apply to this claim term. The term "circuitry" is structure-connoting, and when coupled with the word "logic" as a descriptive identifier, a person of ordinary skill in the art can adequately ascertain its structural meaning. *Apex Inc.*, 325 F.3d at 1373. Accordingly, the Court adopts Google's construction and holds that the term "logic circuitry" is not governed by § 112(f).[2]

3. Term three (3): "Private Key" ('187 Patent, Claims 1 and 10)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| A non-public key used for either decrypting data or generating digital signatures. | A non-public key that is used as an input to a cryptographic algorithm designed such that, without the key, the output of the algorithm cannot be computed. | A non-public key that is used as an input to a cryptographic algorithm designed such that, without the key, the output of the algorithm cannot be computed. |

The dispute over this claim term centers on the breadth and scope of the term "private key." The '187 patent specifications provide the following definition of public key cryptography:

> "Prior to describing the DRM system in accordance with the preferred embodiment of the present invention the following definitions are provided to set the necessary background.
>
> > Public-Key Cryptography—Cryptographic technique that uses a pair of keys, a public and a private key. The private key is used for either decrypting data or generating digital signatures and the public key is used for either encrypting data or verifying digital signatures."

[2] Counsel for Sonos cites *Nilssen v. Motorola, Inc.*, 80 F. Supp. 2d 921 (N.D. Ill. 2000), wherein the district court held "that [the term] 'circuit' is … so generic that by itself it conveys no sense of structure at all." *Id.* at 929. However, *Nilssen* is non-binding and predates *Apex* and *Linear Tech.*, both of which hold that the term "circuitry" connotes sufficient structure even without the word "logic" as an identifier. In any event, as noted above, here there is more than a base recitation of "circuit"; here, the term is "logic circuitry" that performs a specified function.

'187 Patent, 2:42-49 (Docket No. 1-2). The specifications provide the following definition of a digital signature:

> "Digital signature—A digital signature (not to be confused with a digital certificate) is an electronic signature that can be used to authenticate the identity of the sender of a message or the signer of a document, and possibly to ensure that the original content of the message or document that has been sent is unchanged."

'187 Patent, 2:59-64 (Docket No. 1-2). At the claim construction hearing, Google argued that these definitions are merely meant to give context to the *preferred embodiment* of the invention. Google argues that there are other potential embodiments of this term which do not necessarily involve encryption or decryption. And, as Google notes, the term "public-key cryptography" does not appear in any of the claims of the '187 patent.

To that end, Google seeks a more expansive definition that encompasses private key technologies which do not involve encryption or decryption. Google's Opening Claim Construction Brief at 12 (Docket No. 67). For instance, Google's construction would include hash algorithms, which are a type of cryptographic algorithm used for authentication that can employ private keys, but that do not involve encryption or decryption. *Id.* It would also include "message authentication codes, key expansion, pseudorandom number generation, and sharing of secrets," which use cryptographic algorithms but do not involve encryption or decryption. *Id.* Google contends that a person of ordinary skill in the art would understand a private key "to mean a cryptographic key used in relation to a cryptographic algorithm (which may or may not involve encryption or decryption)." *Id.* at 13.

At the claim construction hearing, Sonos countered that the '187 patent only discusses private keys in the context of public key cryptography. It argued that, based on the way the term is used in the specifications, a person of ordinary skill in the art would not understand the term "private key" to include shared secrets like a password. In every instance, the term "private key" is used to sign a digital signature (which is a form of encryption) or to decrypt information. This differs from symmetric key cryptography, wherein the keys are known to both the sender and the recipient. In effect, Sonos argues that Google has acted as its own lexicographer by defining private key in connection with public key cryptography.

There are two exceptions to the general rule that a claim term is given its plain and ordinary meaning by a person of ordinary skill in the art: (1) where a patentee acts as its own lexicographer, or (2) where a patentee "disavows the full scope of a claim term either in the specification or during prosecution." *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). A patentee may act as its own lexicographer by "'clearly set[ting] forth a definition of the disputed claim term' other than its plain and ordinary meaning.'" *Id.* (quoting *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002)). However, it is not enough for a patentee "to simply disclose a single embodiment or use a word in the same manner in all embodiments." *Id.* Instead, the patentee must "'clearly express an intent'" to redefine the term. *Id.* (quoting *Helmsderfer v. Bobrick Washroom Equip., Inc.*, 527 F.3d 1379, 1381 (Fed. Cir. 2008)). Here, the Court does not find that Google acted as its own lexicographer with respect to the term "private key" because public key cryptography is defined merely in conjunction with a preferred embodiment of the invention. Thus, Google has not manifested a clear intent to redefine the term "private key."

Further, the Court finds that the second exception to the rule does not apply to the instant case because Google has not limited the *scope* of the claim term through the specifications. Facially, the '187 patent uses the term "private key" in relation to public key cryptography. For instance, the specifications describe the process wherein user equipment **101** receives a DRM certificate from a key issuer **105** as follows:

> "Key issuer **105** authenticates the unit certificate (belonging to equipment **101**) and then checks the domain information. If the domain information indicates that equipment **101** is being added to a new domain, key issuer **105** *creates a new DRM public/private key pair*. If equipment **101** is being added to an existing domain, key issuer **105** *looks up that domain's DRM public/private key pair in a database*. Key issuer **105** then creates a DRM certificate that contains all necessary information (e.g., the *DRM public key*, serial number, model number, etc.) for equipment **101** to obtain rights to digital content from rights issuer **103**. Key issuer **105** then sends equipment **101** the DRM certificate and the DRM *private key* utilized by the domain."

'187 Patent, 4:29-41 (emphases added). Additionally, the specifications describe the process wherein user equipment **101** purchases rights to digital content from the rights issuer **103** as

follows:

> "When a user wishes to purchase rights to digital content from rights issuer **103**, it provides rights issuer **103** with a DRM certificate. Thus in accordance with the preferred embodiment of the present invention, a DRM certificate (*which contains the DRM public key*) must be provided to rights issuer **103** before any rights to digital content will be transferred to the user. Rights issuer **103** will verify the authenticity of the DRM certificate and then generate a rights object and provide it to equipment **101**. The rights object contains an encrypted encryption key (content encryption key) needed to render (execute) the digital content. *The content encryption key is encrypted with the DRM public key so it can be decrypted only using the DRM private key*."

'187 Patent, 4:42-56 (Docket No. 1-2) (emphases added). The specifications further provide:

> "The DRM certificate, which is obtained via the authenticated communications with key issuer **105**, is utilized by user equipment **101** when obtaining rights objects (i.e., licenses to digital content) from rights issuer **103**. Rights issuer **103** utilizes the DRM certificate to authenticate equipment **101** and pass rights objects (licenses) associated with digital content to user equipment **101**. Particularly, *the DRM certificate comprises a DRM public key (the corresponding DRM private key is securely stored in user equipment* **101**), identification information (e.g., the unique serial number or model number belonging to the user equipment 101), and a *digital signature* generated by key issuer 105.

'187 Patent, 3:51-62 (emphases added).

From this language in the specifications, the Court notes that the **DRM certificate** consists of, *inter alia*, a public key and a corresponding private key securely stored in the user equipment, as well as a digital signature generated by a key issuer. *Id.* The DRM certificate enables the user equipment to access licenses associated with digital content from a rights issuer. *Id.* The rights issuer issues a **content encryption key** to the user equipment, which is needed to render the digital content. '187 Patent, 4:42-56. The content encryption key is encrypted with the DRM public key so it can be decrypted by the user equipment using only the DRM private key. *Id.*

These passages from the specifications describe a "private key" in the context of ***asymmetric***, public key cryptography wherein both the sender and the recipient of information have their own public and private keys. However, the specifications provide the following disclaimer: "[o]ne of ordinary skill in the art would recognize that alternate methods of securing the DRM system are possible using ***symmetric key techniques*** or broadcast key encryption

techniques." '187 Patent, 7:54-57 (emphasis added). Thus, the specifications merely describe asymmetric, public key cryptography as part of the preferred embodiment, and the specifications explicitly state that the invention covers the use of a DRM system with *symmetric* key techniques. Because the specifications state that the full scope of the claim term covers symmetric key techniques, Google has not disavowed the full scope of the claim term, and the Court construes "private key" to cover both asymmetric public key cryptography and symmetric key techniques. *Thorner*, 669 F.3d at 1365. The '187 patent covers embodiments which use symmetric key techniques, and thus Sonos's construction, which would limit the invention to the public key cryptography context, impermissibly seeks to narrow the claim scope.

In sum, Google has not acted as its own lexicographer, and it has not disavowed the full scope of the claim term, which covers DRM systems using symmetric key techniques. Accordingly, the Court adopts Google's construction.

4. Term four (4): "Combined search results set"/"The combined search results set including at least two of: one or more favorite items from the set of [favorite items]/[bookmarks] synchronized for the user; one or more search results from a first global index; or one or more search results from a second global index" ('375 Patent, Claims 1-11 and 13-20)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| Two or more of: [a], [b], or [c]<br>Where [a] is "one or more favorite items from the set of favorite items",<br>Where [b] is "one or more search<br>results from a first global index", and<br>Where [c] is "one or more search results from a second global index." | "combined search results set" means "a search results set that includes results from at least one personalized search." As a result of that construction, the larger phrase means "the combined search results set including at least one or more favorite items from the set of favorite items synchronized for the user and either one or more search results from a first global index or one or more | Two or more of: [a], [b], or [c]<br>Where [a] is "one or more favorite items from the set of favorite items",<br>Where [b] is "one or more search<br>results from a first global index", and<br>Where [c] is "one or more search results from a second global index." |

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|---|---|---|
| | search results from a second global index." | |

The dispute over this claim term boils down to whether the term *must* include a combination of results from different *types* of sets. Google argues that results obtained from multiple "global indexes" would not be enough. Google's Opening Claim Construction Brief at 15 (Docket No. 67). It argues that the claims should be construed to require at least a personal search (*i.e.*, of favorites or bookmarks). *Id.* at 17. Accordingly, the Court should construe "combined search results set" to mean "a search results set that includes results from *at least one personalized search*." *Id.* at 18 (emphasis added).

Sonos counters that the plain language of the claim term itself is clear: "***the*** combined search results set including *at least two of*: [A] one or more favorite items from the set of favorite items synchronized for the user; [B] one or more search results from a first global index; or [C] one or more search results from a second global index." Sonos's Responsive Claim Construction Brief at 14 (emphases added by Sonos) (Docket No. 70). In other words, Sonos's position is that personalized searching is not *necessarily* encompassed by this claim term.

Sonos is correct that the plain language of the claim term encompasses search result sets which are comprised solely of search results from a first and second global index. Even if this was a drafting error, the Court may not correct such an error to sustain the validity of the patent. The Federal Circuit has "repeatedly held that courts may not redraft claims to cure a drafting error made by the patentee, whether to make them operable or to sustain their validity." *Lucent Techs., Inc. v. Gateway, Inc.*, 525 F.3d 1200, 1215 (Fed. Cir. 2008). Where the claims are susceptible to only one reasonable construction, the Federal Circuit "construe[s] the claims as the patentee drafted them." *Id.* In *Lucent Techs.*, for instance, the patent at issue involved a protocol and methods for digitizing speech, and the claim term at issue recited "[a] method for producing a speech message comprising: … iteratively forming a sequence of pulses for said time frame … and each successive iteration including the steps of," followed by steps 1-5. *Id.* at 1204-05. The district court construed the phrase "each successive iteration including the steps of" to require that *all of* the steps following this clause (*i.e.*, steps 1-5) must each be performed in forming each

excitation pulse sequence. *Id.* at 1213. This interpretation was contradicted by the sole embodiment in the specifications, which showed that calculation of pitch redundancy (steps 1-4) was performed outside the pulse-forming loop. *Id.* at 1214-15. Despite the contradiction between the district court's construction and the sole embodiment, the Federal Circuit upheld the construction, because the claim language "expressly require[d] execution of steps 1-5 during each pulse-forming iteration and the specification d[id] not redefine the claim term to have an alternative meaning."[3] *Id.* at 1215-16.

The legal principle from *Lucent Techs.* applies to the instant case. The claim language expressly includes combined search results sets that do not include personalized searches, and the specifications do not contain clear and unambiguous language sufficient to overcome the plain claims language so as to redefine the term *only* to include those combined search results which are personalized.

Indeed, while some of the preferred embodiments in the '375 patent include personalized search results, even the specifications appear to contain flexibility. For instance, "[i]n one embodiment, the search engine **120** returns the list sorted as in a conventional search engine and with the personalized search results indicated in some way, such as, for example, highlighted or shown with a symbol beside the personalized search result." '375 patent, 6:15-19. The language is phrased permissively: "[e]mbodiments of the present invention *may* combine conventional network searches with, *for example*, personalized searches utilizing information provided by the user previously or in conjunction with the submission of the search." '375 patent, 8:46-50 (emphases added). The preferred embodiments do not clearly and unambiguously disavow search results which are not personalized.[4]

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[3] This is to say, the preferred embodiments only authorize departure from the plain meaning of the claims when they are phrased in clear and unambiguous language limiting the claims in a particular way. *See Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015) ("[w]e have found disavowal or disclaimer based on clear and unmistakable statements by the patentee that limit the claims, such as 'the present invention includes . . .' or 'the present invention is . . .' or 'all embodiments of the present invention are . . . '").

[4] Moreover, other embodiments discuss the accessibility of bookmarks on multiple devices *without* mentioning personalized search results: "[i]n embodiments of the present invention, a user **112a** can track their conventional browser bookmarks using server-side storage. These bookmarks

Accordingly, the preferred embodiments cannot override the plain meaning of the claim term, which encompasses search result sets which are comprised solely of search results from a first and second global index.[5] The Court adopts Sonos's proposed construction.

5. Term five (5): "Stored [for the user] in a client-side storage of a client device" ('375 Patent, Claims 1 and 17-20)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| Retained in a computer-readable medium of the client device for later retrieval by the user. Excludes transitory storage. | Plain and ordinary meaning. | Retained in a computer-readable medium of the client device for later retrieval by the user. Excludes transitory storage. |

Sonos argues that a person of ordinary skill in the art would understand this term to exclude transitory storage. Sonos's Responsive Claim Construction Brief at 18 (Docket No. 70). Sonos explains its proposed construction as follows:

> "In contrast to storing bookmarks for later availability and access, there are situations in which data may reside in computer memory only while in transit. For example, if a user uses a client device to enter a bookmark to be stored on the server, the bookmark will pass through the client device in the process of being transmitted to the server. However, the user cannot later access that transitory data in the client; thus, such a scenario does not constitute being "stored in a client-side storage of the client device" within the meaning of the claims. *See* Dkt. 69-15 (Schmidt Decl.), ¶¶ 69-70. By analogy, when a person mails a letter by placing it in a mailbox, the letter is not "stored" in "storage" in the mailbox; it is merely in transit."

*Id.* at 19.

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can then be made available to the user on all the various computers the user uses and can be integrated with browser bookmarks and with the browser(e.g., via a toolbar)." '375 patent, 5:34-39.

[5] As the Federal Circuit has noted, the function of patent claims is to put "competitors on notice of the scope of the claimed invention." *Hoganas AB v. Dresser Indus.*, 9 F.3d 948, 951 (Fed. Cir. 1993). To interpret claims differently just to cure a drafting error made by the patentee would "unduly interfere" with that function. *Id.* The logic applies to the instant case, wherein Google could have inserted language in the specifications clearly stating that the combined search result sets *must* include personalized search results. It opted not to do so.

Google counters that Sonos seeks to exclude certain forms of physical media, such as RAM[6], which is contradicted by the language used in the specifications. Google's Reply Claim Construction Brief at 10-11 (citing '375 patent, 3:23-33) ("[e]mbodiments of computer-readable media include, but are not limited to, an electronic, optical, magnetic, or other storage or transmission device capable of providing a processor, such as the processor **110** of client **102a**, with computer-readable instructions. Other examples of suitable media include, but are not limited to, a floppy disk, CD-ROM, DVD, magnetic disk, memory chip, ROM, RAM, an ASIC, a configured processor, all optical media, all magnetic tape or other magnetic media, or any other medium from which a computer processor can read instructions") (Docket No. 74). Google's expert objects to Sonos's attempt to import a temporal limitation into the claim terms and argues that the term at issue encompasses "any type of storage that can store the favorite items or bookmarks." Shamos Decl. ¶ 47 (Docket No. 69-6).

The Court adopts Sonos's proposed construction. The specifications describe the role of transitory storage, such as RAM, in the following way:

> "The client devices **l02***a-n* shown each includes *a computer-readable medium, such as a random access memory (RAM)* **108** coupled to a processor **110**. The processor **110** executes computer-executable program instructions stored in memory **108**. Such processors may include a microprocessor, an ASIC, and state machines. Such processors include, or may be in communication with, media, for example computer-readable media, which stores instructions that, when executed by the processor, cause the processor to perform the steps described herein."

'375 Patent, 3:14-23 (emphasis added). Thus, computer-readable media, such as RAM, store instructions which allow the *processor* to perform the steps described in the invention. Such storage is transitory and not designed for the *user*. This is different from the permanent, retrievable memory designed for users to synchronize bookmarks across devices, which forms part of the innovativeness of the invention.

Further, Sonos's expert, Mr. Schmidt, explains that "a POSITA [a person of ordinary skill

[6] "RAM" stands for random access memory, and it is a pre-installed computer memory system that temporarily stores data while the computer completes certain tasks (*e.g.*, opens a document or an app).

in the art] would … understand that there is separation between the acts of (1) entering or saving the information and (2) retrieving or accessing it." Schmidt Decl. ¶ 69 (Docket No. 69-15). Or, to give a counter-example:

> "[i]f a user entered information on a device (e.g., a terminal) for storage somewhere else (e.g., on a server), the device would record the input in some manner to be able to transmit it onwards. However, there is no separate instance of later retrieval. Thus, while the information may be retained in memory for some brief or transitory period, it is not the kind of "storage" that a POSITA would understand is encompassed by the claim language."

*Id.* ¶ 70.

The Court finds that a computer-readable medium such as RAM is a type of temporary data storage which exists *for the computer*. In contrast, the claim term speaks of retrievable, non-transitory data *for the user*. '375 Patent, Claim 1, 15:49-58 (claiming a computer-implemented method performed by at least one processor, the computer-implemented method "comprising … in response to receiving the user input: modifying the set of favorite items stored *for the user* in a client-side storage of the client device") (emphasis added). Given the function of the invention (synchronizing lists of favorites among multiple devices for the user) and the persuasiveness of Mr. Schmidt's testimony, the claim term covers the storage of information which can be retrieved or accessed by the user. The claim term does not cover transitory storage, such as RAM, wherein the information is fleetingly present on a client-side device as it is pushed off to a server.

Thus, Sonos's construction better comports with the language of the claim terms and specifications, which describe non-transitory, retrievable information *for the user*. The Court adopts Sonos's proposed construction.

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6. Term six (6): Preambles of claims 1 and 15 ('586 Patent, Claims 1-5, 7-8, 15-16, 18, and 20)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| Preambles are not limiting. | Preambles are limiting. | Preambles are limiting. |

The preamble of claim 1 recites: "[a]n audio-enabled wireless device configured for bidirectional wireless communication in a wireless mesh network, the wireless device comprising: …" '586 Patent, Claim 1, 17:21-24. Claim 2 is dependent upon the "audio-enabled wireless device of claim 1." '586 Patent, Claim 2, 17:47-53. Claim 3 is dependent upon the "audio-enabled wireless device of claim 2," and Claim 4 is dependent upon the "audio-enabled wireless device of claim 3." '586 Patent, Claims 3 and 4, 17:54-61. Claim 5 is dependent upon the "audio-enabled wireless device of claim 1." '586 Patent, Claim 5, 17:62-67.

The preamble of claim 15 recites: "[a] wireless mesh network system, comprising …" '586 Patent, Claim 15, 18:58. Claims 16, 18, and 20 are dependent upon the "wireless mesh network system of claim 15." '586 Patent, Claims 16, 18, 20, 19:12-16, 20:1-10, 20:18-24.

A preamble limits the invention "if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim.'" *Catalina Mktg. Int'l v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). Conversely, a preamble "is not limiting 'where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention.'" *Id.* (quoting *Rowe v. Dror*, 112 F.3d 473, 478 (Fed. Cir. 1997)). In determining whether the preamble recitations are structural limitations or mere statements of purpose, the Court may rely on several principles established by the Federal Circuit. The following factors indicate that the claim scope is limited by the preamble: (1) the use of a disputed term in the preamble provides an "antecedent basis" for the use of that term in other claim elements; (2) "the preamble is essential to understand

limitations or terms in the claim body"; (3) the preamble "recit[es] additional structure or steps underscored as important by the specification"; and (4) "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art." *Id.* at 808-09.

Here, the preambles provide a network topology that recites structure and steps underscored as important by the specifications. Namely, the preambles of claims 1 and 15 describe a "wireless mesh network," and the parties agree that a person of ordinary skill in the art would understand this term to mean a network with the capability to connect network nodes via multiple wireless paths. *See* Min Dec. ¶ 37 (Docket No. 69-7); Wicker Decl. ¶¶ 136-37 (Docket No. 69-12). Wireless mesh networks provide the functionality which characterizes the innovativeness of the '586 patent. These networks provide a degree of redundancy by ensuring that, when one or more paths between nodes becomes unavailable, "an alternative path can be accessed to ensure continued network connectivity." Min Decl. ¶ 37. *See also* Wicker Decl. ¶ 132 (noting that a wireless mesh network is advantageous because it consists of "a series of nodes that are configured to communicate with one another, **where each node functions as both a router and repeater**") (emphasis in original). This is precisely what the specifications claim as a key purpose of the invention: "[t]he present invention … provid[es] a relatively low cost, robust, wireless sensor system that provides an *extended period of operability without maintenance*." '586 Patent, 2:6-10 (emphasis added). In other words, the preambles of claims 1 and 15 recite a structure (a wireless mesh network) which is underscored as critical to the invention in the preamble, and this is a strong indication that the preambles are limiting. *Cf. SIMO Holdings, Inc. v. H.K. uCloudlink Network Tech.*, Ltd., 983 F.3d 1367, 1375 (Fed. Cir. 2021) (finding the preamble limiting because "the body simply describes the actions taken by the invention … [and] [i]t is the preamble that supplies the necessary structure").

Further, the preamble of claim 1 provides an antecedent basis for the term "audio-enabled wireless device." Later limitations in, *inter alia*, claims 1 and 15 recite "a table of identifiers stored in *the* audio-enabled wireless device," referring back to the wireless devices cited in the preambles. '586 Patent, 17:37-38, 19:2-3 (emphasis added). As noted *supra*, when the use of a disputed term in the preamble provides an "antecedent basis" for the use of that term in other

claim elements, that is a factor which indicates that the preamble is limiting. *Catalina Mktg. Int'l*, 289 F.3d at 808-09.

Finally, the audio-enabled wireless device cited in the preamble is essential to understanding the structural limitations described in the claims. For instance, claim 1 speaks of the controller receiving the communication packet and "relay[ing] the communication packet to another audio-enabled wireless device," and the preamble is important for understanding what this means to a person of ordinary skill in the art. *See* '586 Patent, 17:32-44. The preamble clarifies that the act of relaying communication packets must be understood in the context of the "bidirectional wireless communication" that is typical of wireless mesh networks, wherein each node functions as both a router and repeater. '586 Patent, 17:23-25. *See* Wicker Decl. ¶ 37. The preamble thus provides critical context for understanding the terms and limitations in the claim body, and this is another factor indicating that the preamble is limited. *Catalina Mktg. Int'l*, 289 F.3d at 808-09. *Cf. Shoes by Firebug LLC v. Stride Rite Children's Grp.*, LLC, 962 F.3d 1362, 1368 (Fed. Cir. 2020) ("use of preamble terms to define positive limitations in the body of claims can evince an inventor's intent that the preamble limit the scope of the claim").

Accordingly, the Court adopts Google's construction and finds that the preambles are limiting.

7. Term seven (7): "Reset element" ('586 Patent, Claims 1-5, 7-12, 14-16, 18, and 20)

| **Sonos's Original Construction** | **Google's Original Construction** | **Court's Construction** |
|---|---|---|
| Hardware and/or software that functions to return a device to a prescribed state. | An element for resetting the configuration of the controller. | Hardware that places the controller in a prescribed state. |

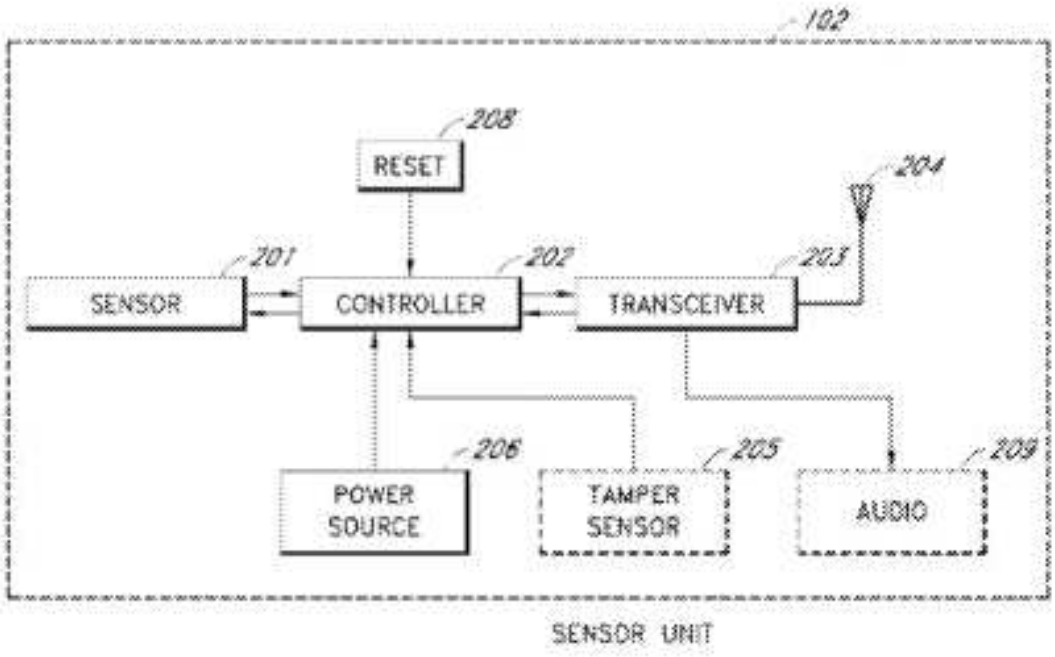
In an attempt to foster compromise at the claim construction hearing, the Court asked if the parties would stipulate to the following construction: "hardware and/or software that functions to return a controller to a prescribed state." The parties could not agree on this construction, and the Court therefore instructed the parties to meet and confer and explore whether they could stipulate

to a revised construction of the claim term. Minute Order (Docket No. 98). Although the parties were unable to agree on a construction, they have revised their constructions as follows:

| Google Revised Construction | Sonos Revised Construction |
|---|---|
| An element, including hardware, for causing the controller to place the audio-enabled wireless device into a prescribed state. | An element that functions to place the controller in a prescribed state. |

Letter from Google and Sonos Regarding Claim 8 (Reset Element) (Docket No. 103).

At the claim construction hearing, Google argued that the controller **202** is included in its construction because the reset element is operatively coupled to the controller. Indeed, Figure 2 of the specifications show that the reset element **208** is coupled with the controller **202**:




'586 Patent, Figure 2, (Docket No. 1-22, Ex. 22). Google also explained that, where the specifications state, in reference to Figure 2, that "[a] reset device (e.g., a switch) **208** is [provided] to the controller **202**," the term "reset device" is synonymous with reset element. '586 Patent,

9:40-41. Thus, Google states that the term "reset element" can mean a switch or a button, but in general it is referring to a button on the audio enabled device that activates the controller to place the transceiver in the receiving mode, so that the transceiver can receive its identification code in order for the device to join the network. In other words, Google contends that this is an initialization function. Google took issue with Sonos's use of the word "return" in its proposed construction.

The parties' revised constructions are not far apart. The parties now agree on the use of the word "place," and Sonos has dropped the use of the word "return." The Court finds that the term "audio-enabled wireless device," in Google's revised construction, is already apparent from the context of the claim term. The Court therefore adopts the following construction: "Hardware that places the controller in a prescribed state."

8. Term eight (8): "Preamble portion" ('586 Patent, Claims 1-5, 7-12, 14-16, 18, and 20)

| **Sonos's Construction** | **Google's Construction** | **Court's Construction** |
|---|---|---|
| A series of bits that is used to initiate and synchronize the receiving device. | Plain and ordinary meaning. | Plain and ordinary meaning. |

Sonos argues that, while a "preamble" may be a term familiar to a layperson (*e.g.*, the preamble to the U.S. Constitution), a person of skill in the art would have a particularized meaning for this term. Sonos's Responsive Claim Construction Brief at 24 (Docket No. 70). Namely, they would construe the claimed data packet as ""a series of bits that is used to initiate and synchronize the receiving device." *Id.* Sonos provides the following extrinsic evidence in support of its construction:

- "Newton's Telecom Dictionary (2004): Preamble is ***"[a] synchronization mechanism*** used in Ethernet LANs (Local area Networks), the preamble is a set of eight octets (8-bit values) which precede the Ethernet frame. A very specific ***bit sequence***, the preamble serves to alert each Ethernet-

> attached device to the fact that a data frame is traveling across the circuit. Once alerted to this fact, the preamble is used by all attached devices to ***synchronize*** on the rate of transmission of the data bits across the circuit." Dkt. 69-17 at 654 (emphasis added).
>
> - The Authoritative Dictionary of IEEE Standards Terms, Seventh Edition (2000): Preamble is: (1) "In networking, ***a sequence of bits at the start of each new transmission to allow synchronization*** of clocks and other physical layer circuitry at other stations;" and (2) "***A sequence of bits*** recorded at the beginning of each block on a magnetic tape for the ***purpose of synchronization***." Ex. I at 857.

*Id.* at 24-25 (emphasis added by Sonos).

At the claim construction hearing, Google defined the plain and ordinary meaning of this term as the portion of the communication packet which precedes the other enumerated portions. Google counters that the extrinsic evidence provided by Sonos does not persuasively define a "preamble" in all network contexts, and that Sonos does not support its construction with any intrinsic evidence. Google's Reply Claim Construction Brief at 15 (Docket No. 74). For instance, Google stated, at the claim construction hearing, that a preamble in some cases has training bits, and it can alert a receiving device that data is coming without initiating a synchronization process.

The Court adopts Google's construction. First, the extrinsic evidence which Sonos offers is disputed. Google's expert, Dr. Min, states that a preamble portion, as understood by a person of ordinary skill in the art, can take many different forms. For instance: "a 'preamble' portion may take the form of a simple flag or start frame bit, that signifies the beginning of a packet." Min Decl. ¶ 57 (Docket No. 69-7). In other embodiments, a preamble "may include additional timing, identification, or authentication information." *Id.* Dr. Min states persuasively that there is nothing in the intrinsic evidence, or in the understanding of a person of ordinary skill in the art, which supports the conclusion that a preamble portion "must necessarily perform a synchronization and initiation function of the receiving device, as the construction proposed by Sonos suggests." *Id.* ¶ 59.

Second, extrinsic evidence plays a limited role in the claim construction analysis. As the Federal Circuit has explained, "extrinsic evidence in general, and expert testimony in particular, may be used only to help the court come to the proper understanding of the claims; it may not be

used to vary or contradict the claim language." *Vitronics Corp. v. Conceptronic*, 90 F.3d 1576, 1584 (Fed. Cir. 1996). Here, Sonos seeks to use extrinsic evidence to vary the claim language, impermissibly importing a limitation which requires the preamble portion to serve a synchronization and initiation function. Sonos's extrinsic evidence is disputed, and is insufficient to impose a limitation on the meaning of a claim term where, as here, it is unsupported by any intrinsic evidence.

Sonos has not met the burden of showing that the preamble portion can *only* refer to a series of bits that is used to initiate and synchronize the receiving device. Accordingly, the Court adopts Google's proposed construction, and finds that "preamble portion" should be given its plain and ordinary meaning.

## V. CONCLUSION

For the foregoing reasons, the Court construes the contested claim terms as follows:

- Term one (1): "domain information" has its plain and ordinary meaning without the need for further construction.
- Term two (2): "logic circuitry" has its plain and ordinary meaning without the need for further construction, and it is not governed by 35 U.S.C. § 112(f).
- Term three (3): "private key" means "a non-public key that is used as an input to a cryptographic algorithm designed such that, without the key, the output of the algorithm cannot be computed."
- Term four (4): "combined search results set"/"the combined search results set including at least two of: one or more favorite items from the set of [favorite items]/[bookmarks] synchronized for the user; one or more search results from a first global index; or one or more search results from a second global index" means "two or more of: [a], [b], or [c] where [a] is 'one or more favorite items from the set of favorite items', where [b] is 'one or more search results from a first global index', and where [c] is 'one or more search results from a second global index.'"
- Term five (5): "stored [for the user] in a client-side storage of a client device" means "retained in a computer-readable medium of the client device for later retrieval by the user.

Excludes transitory storage."

- Term six (6): preambles of claims 1 and 15 are limiting.
- Term seven (7): "reset element" means "hardware that places the controller in a prescribed state."
- Term eight (8): "preamble portion" has its plain and ordinary meaning without the need for further construction.

**IT IS SO ORDERED**.

Dated: June 7, 2021

EDWARD M. CHEN
United States District Judge

United States District Court
Northern District of California