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

NETWORK SYSTEM TECHNOLOGIES, LLC, Plaintiff, v. SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS AMERICA, INC., SAMSUNG AUSTIN SEMICONDUCTOR, LLC, SAMSUNG SEMICONDUCTOR, INC., Defendants.	Civil Action No. 2:22-CV-00481-JRG **JURY TRIAL DEMANDED**

PLAINTIFF NETWORK SYSTEM TECHNOLOGIES, LLC'S
REPLY CLAIM CONSTRUCTION BRIEF

I. Though Informative, the TI Order is Not Binding

The TI Order is not binding on this Court. *See Luv N' Care, Ltd. v. Jackel Int'l Ltd.*, 115 F. Supp. 3d 808, at 816 (E.D. Tex. 2015) ("[A]though a previous construction may be instructive and provide the basis of the analysis . . . the previous construction is not binding on the court.") (citations omitted). Though certainly worthy of this Court's consideration, and as NST noted in its Opening Brief, (Dkt. 100, "Br." at 7-8), NST agrees with the TI Order in many respects, NST respectfully submits that its findings of indefiniteness as to "optimal amount" and "optimal movement" are incorrect. *Id.* at 26-27, 28-29. NST also contends that the TI Order's constructions of "dropping means," "interface means," and "communication means" impermissibly import additional functional limitations contrary to Federal Circuit law. (*Id.* at 9-16.)

II. Samsung's Constructions of "Dropping Means," "Interface Means," "Communication Manager" and "Mapping Means" Impermissibly Import Functional Limitations

NST is not alone in its belief that the TI Order's constructions (and, by extension, Samsung's constructions) impermissibly import additional functional limitations. In the related case, *Network System Technologies, LLC v. Qualcomm Inc. et al.*, No. 1-22-cv-01331 (W.D. Tex.) (the "Qualcomm Case"), where NST asserts the same six patents as it asserts here, Judge Ezra asked the parties to submit supplemental briefing addressing the TI Order's constructions. Both NST and the defendants there expressed disagreement with the aspect of the TI Order's constructions of "dropping means" and "communication manager" that required the circuit be "configured to implement the scheme disclosed in . . ." because such incorrectly and impermissibly inserts additional functional limitations embodied in the recited specification passages. Qualcomm Case, Dkt. 106 at 5, 7 (NST Brief); Dkt. 105 at 2-6 (Defendant Brief).

Though the terms "interface means" and "mapping means" were not at issue in the Qualcomm Case (and "mapping means" was not at addressed in the TI Order either), Samsung's

proposed constructions suffer from the same infirmity as "dropping means" and "communication manager," as they likewise incorporate specification passages containing functional limitations. (Br. at 13, 18-19 (citing *Micro Chem., Inc. v. Great Plains Chem. Co.,* 194 F.3d 1250, 1258 (Fed. Cir. 1999) (finding "the district court erred . . . by incorporating unrecited functional limitations into the claims")[1]; *see also* Qualcomm Case, Dkt. 105 at 5 (Defendant Brief) ("[I]n addition to being contrary to law, the TI Order's importation of 'schemes' from the specifications is unhelpful and unworkable. . . . The passages cited by the TI . . . are not only voluminous, they are difficult to understand and untethered from the claimed functions. These constructions are inadequate to assist the jury in its role of deciding whether the accused ***structure*** is the same as or the equivalent to disclosed ***structure*** for performing the claimed function.") (emphasis original).

III. Samsung's Constructions of "Dropping Means," "Interface Means," and "Communication Manager" Acknowledge that These Terms, as Well as the "Mapping Means," are Structural Circuits

Each of Samsung's constructions of "dropping means," "interface means," and "communication manager" define the structure as a "portion of the circuit . . . ." (Br. at 9, 11-12, 14.) This aspect of Samsung's construction is consistent with NST's constructions of these terms as "circuit configured to drop data," "interface circuit that connects a module to a network," and "circuit that manages communication between modules," respectively. (*Id.* at 9, 11-12, 14.) This is also supportive of NST's construction of "mapping means" as "circuit configured to map a requested communication service to a connection." (*Id.* at 16-17.)

As NST explains in its Opening Brief, the '818 Patent discloses "dropping means" and "interface means" as constituent circuit elements of a larger "integrated circuit," which the parties

[1] Though NST cites to *Micro Chem.* at multiple junctures in its Opening Brief, Samsung does not address or distinguish the decision.

stipulated means "interconnected circuitry on a chip." (*Id.* at 10 n.2 (citing Chmelar Decl. ¶ 53; '818 Patent at Abstract ("[s]aid integrated circuit comprises at least one dropping means"); '818 Patent at 5:27-28, 5:37-41 ("integrated circuit comprising at least one interface means" that "comprises a first dropping means"); 12 n.3 ("As with "dropping means," the '818 Patent discloses the "interface means" comprised in an "integrated circuit…").) The specification of the '449 Patent likewise consistently describes the "communication manager" as a constituent of an "integrated circuit." (*Id.* at 15 (citing '449 Patent at Claim 10; Chmelar Decl. ¶¶ 100, 104).) Finally, the '052 Patent's specification similarly discloses an "[i]integrated circuit, comprising: … a mapping means (A)…" (*Id.* at 17 (citing Chmelar Decl. ¶ 121; '052 patent at 9:25-41).)

Therefore, because the patents disclose "dropping means," "interface means," "communication manager," and "mapping means" as comprised in the "integrated circuit" that the parties agree is structural, then so too are these constituent subparts thereof. (*See* Br. at 10 n.2, 12 n.3, 15, 17.). Moreover, the description of the operation of these circuit elements in the respective specifications further confirms their structural nature. *Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1365-66 (Fed. Cir. 2022) ("Claim terms need not connote a single, specific structure, and may instead describe a class of structures and still recite sufficiently definite structure to not invoke § 112 ¶ 6" and "that structure can be recited in various ways, including through the use of a claim term with a structural definition that is either provided in the specification or generally known in the art, or a description of the claim limitation's operation and how the function is achieved in the context of the invention.") (internal quotations omitted) (citing *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1298–99 (Fed. Cir. 2014)).

To refute this, Samsung cites *Maurice Mitchell Innovations, L.P. v. Intel Corp.* for the proposition that complicated circuits are too broad to provide structure to a POSITA. (Dkt. 112,

"Resp." at 4 (citing 249 F. App'x 184, 188 (Fed. Cir. 2007).) *Maurice Mitchell* is distinguishable. There, the patentee pointed to a MCS6520 Peripheral Interface Adaptor, which it contended was capable of performing the claimed "means for causing" function. But the "means for causing" was not disclosed as a circuitry element within the MCS6520. Here, by contrast, the claims and specification expressly describe the "dropping means" as an integral constituent of the claimed "integrated circuit" sufficiently linking the term to the structure.

Samsung's reliance on *Egenera, Inc. v. Cisco Systems, Inc*., 972 F.3d 1367, 1374 (Fed. Cir. 2020) is likewise incorrect. In *Netlist, Inc. v. Samsung Elecs. Co.*, No. 2:22-CV-00293-JRG, 2023 WL 8101855, at *12 (E.D. Tex. Nov. 21, 2023), this Court held that the term "'logic' clearly connotes physical structure rather than software, as the claims require the 'logic' to be coupled to … a printed circuit board . . . . Thus, 'logic' here is not so 'broad and formless' as the 'logic to modify' of *Egenera*." Here too, the "integrated circuit" that NST points to is plainly structural, and the parties have stipulated as much. (*See* Br. at 9, 11-12, 14, 16-17.)

Samsung mischaracterizes *Bennett Marine, Inc. v. Lenco Marine, Inc*., 549 F. App'x 947 (Fed. Cir. 2013). (Resp. at 7.) In *Bennett*, the court held that because the patent "discloses only one specific type of circuit," then it cannot be read to include "any circuit capable of performing the required function." 549 F. App'x at 954. Here, the "dropping means," "interface means," "communication manager," and "mapping means" are not limited to "only one specific type of circuit."

Thus, in light of the foregoing, and the vast body of Federal Circuit precedent holding that a "circuit" is sufficiently structural, (*see* Br. at 10), the § 112, ¶ 6 presumption is rebutted and NST's constructions (the *only* non-§ 112, ¶ 6 constructions before the Court) should be adopted. *Skky, Inc. v. MindGeek s.a.r.l.,* 859 F.3d 1014, 1019 (Fed. Cir 2017) (finding "'wireless device

means' does not invoke § 112, ¶ 6 because its clause recites sufficient structure"). If, however, the Court determines that § 112, ¶ 6 applies, the NST respectfully submits that the structure for each of these terms is "circuit" for the reasons set forth above and in NST's Opening Brief. (*See* Br. at 11, 13, 16, 18.)

IV. "Arranging . . . As a Single Address" is Definite

As an initial matter, Samsung does not dispute that the Court should correct the typographical error in this claim. (*See* Resp. at 17-19.)

Regarding indefiniteness, Samsung argues that this term is indefinite since "a POSITA would not understand what it means to 'arrange'" two pieces of information "as a single address." (Resp. at 16 (citing Madisetti Decl. ¶ 83).)[2] This lacks credibility. A POSITA would understand that there are many ways to "arrange" the first and second information into a single address. (Chmelar Decl. ¶¶ 156-57.) Nevertheless, even if not explicitly disclosed, the claim is still sufficiently definite, since "[a] patent need not explicitly include information that is already well known in the art." *Presidio Components, Inc. v. Am. Tech. Ceramics Corp.*, 875 F.3d 1369, 1376 (Fed. Cir. 2017) ("a claim is not indefinite if a person of skill in the art would know how to utilize a standard measurement method … to make the necessary measurement").

Samsung also mischaracterizes Dr. Chmelar's testimony. (*See* Resp. at 17.) As Dr. Chmelar explains, the first and second information is sent from the "message-sending module" and arranged into a single address at the address translation unit. (Chmelar Decl. ¶ 157, FIGs. 3-4.) Contrary to

[2] Contrary to Samsung's baseless assertion, NST has not waived any argument with respect to the "arranging … single address" term. *See R2 Sols. LLC v. Deezer S.A.*, No. 4:21-CV-122, 2022 WL 36240, at *6 (E.D. Tex. Jan. 4, 2022) (rejecting the defendants' "argu[ment] that Plaintiff waived any arguments as to indefiniteness by not substantively addressing, in Plaintiff's opening brief, the assertions of indefiniteness raised by Defendants in the P.R. 4-3 Joint Claim Construction and Prehearing Statement," because "Plaintiff opposes Defendants' assertions of indefiniteness and has merely forfeited the opportunity to have the first word, so to speak, on the indefiniteness arguments that Defendants choose to continue to assert (as to which Defendants bear the burden)").

Samsung's suggestion, nothing in Dr. Chmelar's declaration contradicts the requirement that the address translation unit determine the addressed message receiving module and the particular location within that module "based on said single address." (Resp. at 17.) Samsung's attempt to muddy the waters must be rejected.

Samsung has failed to meet its burden of proving by clear and convincing evidence that the term is indefinite. *Halliburton Energy Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249-50 (Fed. Cir. 2008); 35 U.S.C. § 282. Accordingly, the Court should adopt NST's construction.

V. "Each Data Package Comprising N Data Elements" Does not Require *Every* Data Package Comprise the Same Number of Elements

Samsung's key argument is that "[t]he claim language makes clear that every data package communicated in the network has 'N data elements'—no more and no less." (*See* Resp. at 18.) Yet none of the language cited in Samsung's brief supports implicitly injecting the limitation "no more and no less" into this claim. First, Samsung argues that the claims should be so limited because the word "each" is synonymous with the word "every." *Id.* Even if "each" means "every," which NST disputes, the claim still ends with "comprising N data elements," not "comprising *the same number* of N data elements."[3] Indeed, the variable "N" is a symbol conventionally used to represent ***any*** real number (and in the claims, it must be at least 2). Thus, Samsung's argument that "the word 'comprising' . . . 'means 'having' . . . not 'having at least'" also fails, since the limitation still reads "having N data elements," not "having *the same number of* N data elements."

Next, Samsung misconstrues the '2893 Patent's specification to argue that the number of data elements must be the same for all data packages, which Samsung argues is necessary to

[3] Samsung's reliance on *Apple Inc. v. Samsung Elecs. Co.*, 695 F.3d 1370 (Fed. Cir. 2012) exposes its misguided position. In *Apple*, the claim at issue explicitly recited that "each heuristic module *employs a different*, predetermined heuristic algorithm." *Id.* at 1373 (emphasis added). Here, no such language exists in the claim.

prevent routing data from "arriv[ing] outside the predefined clock cycle." (Resp. at 21 (citing Madisetti Decl. ¶ 94.).) This is incorrect. The '2893 Patent is premised on a channel that is already transmitting data packages at a proper clock cycle that is synced to the number of data elements in a data package. The patent merely teaches "delaying the whole data package rather than a single data element" so that any future transmissions remain in sync. '2893 Patent at 1:65–2:32, 2:30 – 32.

As Madisetti appears to recognize, integrated circuits often have separate communication channels for transmitting different kinds of data at different speeds. (Marinetti Decl. ¶ 92 (quoting '2893 Patent at 1:43-46).) The '2893 Patent allows an integrated circuit "to operate at a higher clock speed 'at the expense of an additional clock cycle for the communication along the slowest communication channel.'" (Madisetti Decl. ¶ 92 (quoting '2893 Patent at 1:43-46).) To ensure synchronization, delays introduced on each channel would simply have to use M*N factors that correspond to the number of data elements in each channel's respective data packages.

Finally, Samsung fails to rebut NST's construction for "data elements" as "groups of data." Samsung ignores the fact that Figure 3 "show[s] that data elements are grouped into respective data packages," and that "[t]his grouping is also shown in other figures, including Figure 4" and that "the specification further discloses that data elements are 'sent' together as part of a 'data package.'" (Br. at 22.) Accordingly, the Court should reject Samsung's positions, and construe "data package" as a "fixed-size arrangement of data," "data elements" as "groups of data," and afford the remaining language its plain and ordinary meaning.

VI. "Determination Unit," "Optimal Amount" and "Optimal Moment" are Not Indefinite

A. "Determination Unit" is Not Indefinite

Merely purporting "determination unit" to be "purely functional," or that "the term 'unit,'

in a vacuum, is defined only by the function it performs," (*see* Resp. at 27), is not enough to overcome the presumption arising from the absence of the word "means" in this term. "The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015).

Rather than address specific disclosures of the "determination unit" as a form of structural circuity in different embodiments, Samsung argues that these passages should be ignored. (Resp. at 28-29.) This is improper. *Medrad, Inc. v. MRI Devices Corp*., 401 F.3d 1313, 1320 (Fed. Cir. 2005), 401 F.3d at 1320 (a "claim construction that does not encompass a disclosed embodiment is rarely, if ever, correct"). In one embodiment, the determination unit is comprised of storage circuity by disclosing that "information" is "stored in the determination units." Samsung does not dispute that "storage" of "information" is only possible through the use of latches, flip-flops, registers, or memory cells (*i.e*., storage circuity). (Br. at 23 (citing '800 Patent at 6:62-65); *see also id.* at 24 (citing '800 Patent at 4:18-24)("wrapper means comprise ***a determination unit*** BLDU for determining the optimal first or second amount of data ***to be buffered***.").) Similarly, Samsung ignores embodiments that expressly disclose that the "determination units" (BLDU) are physically located, or "arranged[,] in the network interfaces NI associated to the slave S and master M, respectively. (Br. at 23 (citing Chmelar Decl. ¶ 197 (quoting '800 Patent at 6:47-53); '800 Patent at Fig. 2)).) These operations supply embodiments of a class of structures that provide a sufficiently definite class of structures (*i.e.*, a circuit) to a POSITA. And because the operations provide structure, this term is neither a "black box" nor is indefinite. *Apple Inc. v. Motorola, Inc*., 757 F.3d at 1298–99.

B. "Optimal Amount" is Not Indefinite

Regarding "optimal amount," Samsung misrepresents NST's positions. First, NST ***does not***

argue that the "optimal amount" is a subjective value that is chosen by a chip's designer. (Resp. at 24.) The chip designer designs the physical characteristic of a chip. The "optimal amount" is an objective value (*i.e.*, the most amount of data a buffer is physically capable of storing) that determined by to those physical characteristics. (Br. at 25 (citing '800 Patent at 6:47-53; Chmelar Decl. ¶ 179).) As described in NST's brief, the specification provides the parameters for this value. (Br. at 25 (citing '800 Patent at 4:49-57 *and id.* at 3:35-37, 4:18-28).) The communication properties are reflected in a chip's physical structure. A POSITA would understand that the "optimal amount of data" objectively corresponds to the maximum amount of data a chip is capable of buffering within the parameters of the chip's physical structure and communication properties.

Likewise, Samsung's argument that NST's dictionary definition connotes subjectivity (Resp. at 22) is divorced from the specification, which discloses the goal of the invention to *maximize* the data buffered. (Br. at 25.) In this context, a POSITA would understand that the term is not a subjective "term of degree."[4]

C. "Optimal Moment" is Not Indefinite

Similarly, "optimal moment" is also an objective value that determined by the physical characteristics of a chip. The specification discloses that the "'optimal moment' is when 'one of the slots reserved' is available to accommodate the 'optimal amount' of data." (Br. at 28 (citing '800 Patent at 7:4-14).) This is an objective point in time when two conditions are met: (1) the "optimal amount of data [has been] buffered" and (2) the chip can transmit data because a slot is

[4] Defendants' reliance on *Interval Licensing LLC v. AOL, Inc.* is unavailing. Resp. at 23 (citing 766 F.3d 1364, 1371 (Fed. Cir. 2014)). In *Interval Licensing LLC*, the Federal Circuit held that the term "in an unobtrusive manner" was a "term of degree," and that the claim was indefinite because the specification failed "to identify 'some standard for measuring the scope of the phrase.'" 766 F.3d at 1370-71. Neither of these factors are the case here. First, the term "optimal amount of data" is not a subjective term of degree because it refers to a. Second, in *Interval Licensing LLC*, the specification clearly provides the objective boundaries for "optimal" by disclosing the goal of the invention to maximize buffer utilization.

physically available. The communication properties are attributes that are reflected in a chip's physical structure that impact when a chip is physically capable of transmitting data.

Defendants fail to support their argument that the claim requires one to "weigh these properties" against one another to calculate an "optimal moment." (Resp. at 24.) The reason is simple. This is not what the patent requires. Claim 12 recites "determine an optimal moment for sending the data . . . ***according to communication properties*** of the communication between the master and the slave." '800 Patent, Claim 12. A POSITA would understand "communication properties" to be attributes that are reflected in the physical characteristics of a chip. For instance, a POSITA would understand a chip's latency and its throughput capacity to be reflected in the physical traits of a chip, and impact *when* it is physical capable of transmitting more data (*i.e.*, "optimal moment") and *how much* data it is physically capable of buffering (*i.e.*, "optimal amount").

VII. CONCLUSION

For these reasons, NST respectfully requests that the Court adopt its proposed claim constructions.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served on March 19, 2024 with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

/s/ William E. Davis, III
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