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

WI-LAN, INC., Plaintiff, v. RESEARCH IN MOTION CORPORATION, RESEARCH IN MOTION LTD., MOTOROLA, INC., UTSTARCOM, INC., LG ELECTRONICS MOBILECOMM U.S.A. INC., LG ELECTRONICS, INC., AND PERSONAL COMMUNICATIONS DEVICES, LLC, Defendants.	§ § § § § § § § § § § § § § § § §	Civil Action No. 2:08-cv-247-TJW JURY

DEFENDANT LG ELECTRONICS MOBILECOMM U.S.A. INC.'S
PATENT RULE 4-5(b) RESPONSIVE CLAIM CONSTRUCTION BRIEF

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Pursuant to Local Patent Rule 4-5(b), Defendant LG Electronics Mobilecomm U.S.A. Inc. ("LGEMU") respectfully submits this brief in response to Plaintiff Wi-LAN, Inc.'s January 21, 2010 Opening Claim Construction Brief (Docket No. 104).

LGEMU submits this brief to address the construction of certain terms of U.S. Reissue Patent 37,802 ("the '802 patent") for which LGEMU has proposed constructions or cited structural support that differs from its co-defendants. LGEMU joins Defendants' Responsive Claim Construction Brief filed by Defendants Motorola Inc., UTStarcom Inc., and Personal Communications Devices, LLC, except with respect to the issues discussed in this brief.

I. INTRODUCTION

In this brief, LGEMU proposes a construction of "first computing means" that cites Figure 3 as additional corresponding structure, and LGEMU proposes a construction of "invertible randomized spreading" that uses "an invertible randomizer transform." Moreover, based on the January 20, 2009 declaration of Wi-LAN's technical expert Dr. Richard Gitlin and his February 8, 2010 deposition testimony, LGEMU no longer agrees that Figure 4 is corresponding structure for the claimed "first computing means" because the "computing means" shown in that figure does not perform the recited function of "spreading."

The terms "first computing means," "spreading," and "invertible randomized spreading" are found in independent claims 1, 17 and 33 of the '802 patent. The parties agree that each of those terms is part of a means-plus-function claim element governed by 35 U.S.C. § 112, ¶ 6. While the parties agree on the recited function ("to produce … an invertible randomized spreading"), there is dispute over the construction of "spreading" and "invertible randomized spreading," which are terms that comprise part of the recited function. Accordingly, this brief first focuses on the proper construction of "spreading" and "invertible randomized spreading,"

and then addresses the corresponding structure of the "first computing means" for carrying out the recited function.

II. LAW FOR MEANS-PLUS-FUNCTION CLAIM CONSTRUCTION

A patent claim provides the public with notice of the metes and bounds of an invention. It is the function of the claims, not the specification, to set forth the boundaries of the invention. Claim construction is an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970-71 (Fed. Cir. 1995) (*en banc*), *aff'd*, 517 U.S. 370 (1996). To ascertain the meaning of claims, the court primarily looks to the claims, the specification, and the prosecution history. *Id.* at 979.

When construing claim terms, the words in a claim are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005). 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." *Id*. at 1313. A definition that is different from the ordinary meaning may be adopted when "'the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.'" *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009) (*quoting CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366-67 (Fed. Cir. 2002)); *see also Intellicall, Inc. v. Phonometrics*, 952 F.2d 1384, 1388 (Fed. Cir. 1992).

When construing a means-plus-function claim under § 112, ¶ 6, once the recited function has been identified, the next step is to identify in the specification the structure corresponding to the recited function. *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999). However, "'structure disclosed in the specification is "corresponding" structure only if the specification or prosecution history clearly links or associates that structure to the function

recited in the claim.'" *Med. Instrumentation & Diagnostics Corp. v. Elekta AB*, 344 F.3d 1205, 1210 (Fed. Cir. 2003) (*quoting B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997)); *see also Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1312 (Fed. Cir. 2001) (structures capable of performing the recited function are not corresponding structure if "there is no clear link or association between the disclosed structures and the function recited in the means-plus-function claim limitation").

For means-plus function claims, additional requirements of disclosure are imposed on the patentee to satisfy the definiteness requirement of § 112, ¶ 2. *Aristocrat Techs. Austl. Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1331 (Fed. Cir. 2008); *NetMoneyIN v. Verisign, Inc.*, 545 F.3d 1359, 1367 (Fed. Cir. 2008). "If the specification does not contain an adequate disclosure of the structure that corresponds to the claimed function, the patentee will have 'failed to particularly point out and distinctly claim the invention as required by the second paragraph of section 112,' which renders the claim invalid for indefiniteness." *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1382 (Fed. Cir. 2009) (citation omitted).

In cases where the corresponding structure involves a computer or computer-implemented means, the patent must disclose an algorithm for performing the claimed function. *Aristocrat*, 521 F.3d at 1333; *Net MoneyIN*, 545 F.3d at 1367. To avoid purely functional claiming, courts have "'consistently required that the structure disclosed in the specification be more than simply a general purpose computer or microprocessor.'" *Net MoneyIN*, 545 F.3d at 1367 (*quoting Aristocrat*, 521 F.3d at 1333). "'[T]he corresponding structure for a § 112 ¶ 6 claim for a computer-implemented function is the algorithm disclosed in the specification.'" *Aristocrat*, 521 F.3d at 1334 (*quoting Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1249 (Fed.

Cir. 2005)); *see also Widevine Techs., Inc. v. Verimatrix, Inc.*, No. 2:07-cv-321, 2009 WL 3734106, at *14 (E.D. Tex. Nov. 4, 2009) (*citing Harris*, 417 F.3d at 1253).

The disclosed algorithm may be expressed in a variety of forms, "including as a mathematical formula, in prose, or as a flow chart." *Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1340 (Fed. Cir. 2008) (citation omitted). However, a disclosure that merely restates the function as recited in the claim is not an algorithm. *Id.* In addition, the disclosure must do more than simply describe the function to be performed. *Aristocrat*, 521 F.3d at 1334; *see also Typhoon Touch Techs., Inc. v. Dell, Inc.*, No. 6:07-cv-546, 2009 WL 2243126, at *16 (E.D. Tex. July 23, 2009). Thus, for example, the disclosure of "pictorial and mathematical ways of describing the claimed function ... is not enough to transform the disclosure of a general-purpose microprocessor into the disclosure of sufficient structure to satisfy section 112 paragraph 6." *Aristocrat*, 521 F.3d at 1335. Furthermore, a mere "description of the outcome of the claimed functions [is] not a description of the structure," and does not constitute an algorithm sufficient to satisfy § 112, ¶¶ 6 and 2. *Id.* at 1334-35. If the patentee has failed to disclose an algorithm, the claim will be found invalid for indefiniteness. *Aristocrat*, 521 F.3d at 1337-38.

The issue of whether an algorithm has been disclosed is different from the question of enablement. *Blackboard*, 574 F.3d at 1385. "Whether the disclosure would enable one of ordinary skill in the art to make and use the invention is not at issue here. Instead, the pertinent question in this case is whether [the] patent discloses structure that is used to perform the claimed function." *Aristocrat*, 521 F.3d at 1336. "'The inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether that person would be capable of implementing [that] structure.'" *Id.* at 1337 (*quoting Biomedino, LLC v. Waters Techs. Corp.*, 490 F.3d 946, 953 (Fed. Cir. 2007)).

III. ARGUMENT

A. "Spreading" And "Invertible Randomized Spreading"

The parties agree that "first computing means" is written in means-plus-function format and is governed by 35 U.S.C. § 112, ¶ 6. The parties further agree that the function is "operating on … data symbols … to produce modulated data symbols corresponding to an ***invertible randomized spreading*** of the first stream of data symbols" (emphasis added). Because the function of the "first computing means" includes "spreading" and, in particular, "invertible randomized spreading," construing these terms is necessary to identify the structures that correspond to the "first computing means."

In support of its claim constructions for the '802 patent, Wi-LAN relies on Dr. Gitlin's expert declaration. But Dr. Gitlin's declaration, which is extrinsic evidence, explicitly states that Wi-LAN's proposed construction of "spreading" (and as a consequence "invertible randomized spreading") is "***inconsistent*** with the ordinary meaning of spreading" to one of skill in the art. (Lee Exhibit 1: Gitlin Decl. ¶ 18, 22 & 25[1]). The '802 patent specification, however, does not clearly set forth any new definition of spreading that is different from its ordinary meaning. Accordingly, Wi-LAN's proposed claim construction of "spreading" (and "invertible randomized spreading") should be rejected and that term should be given its ordinary meaning as proposed by Defendants.

With respect to "invertible randomized spreading," Wi-LAN's construction of "randomized" requires "the application of complex constants chosen randomly." (Lee Exhibit 1:

[1] "Gitlin Decl. ¶ __" refers to the cited paragraphs of Wi-LAN's January 20, 2010 Declaration of Dr. Richard D. Gitlin In Support Of Plaintiff's Claim Construction Brief. (Docket No. 104-23, Exhibit V). Copies of the cited pages of Dr. Gitlin's Declaration are attached as Exhibit 1 to the February 16, 2010 Declaration of Gene W. Lee in Support of Defendant LGEMU's Responsive Claim Construction Brief ("Lee").

Gitlin Decl. ¶ 23). Dr. Gitlin, however, testified that the '802 patent does not provide any mechanism for generating such complex constants. (Lee Exhibit 2: Gitlin Tr. 161[2]).

Once "spreading" and "invertible randomized spreading" are properly construed, it is clear that the only structure corresponding to the "first computing means" is the "computing means 12" of Figure 1 used in combination with the code generator of Figure 3. Nevertheless, the term "first computing means" is fatally indefinite because the '802 patent fails to disclose the algorithm required for the "computing means" to carry out the recited function.[3] *Aristocrat*, 521 F.3d at 1337-38.

1. "Spreading" Should Be Given Its Ordinary Meaning

The parties respective constructions of "spreading" are set forth below.

Wi-LAN	DEFENDANTS
modulating data symbols by codes of larger bandwidth	distributing information bits over code chips thereby reducing the effective bandwidth

The starting point for claim construction is the ordinary and customary meaning to a person of skill in the art. *Phillips*, 415 F.3d at 1312. Wi-LAN's construction of "spreading" should be rejected because Wi-LAN's own expert makes clear that it is "inconsistent" with the ordinary meaning of that term. (Lee Exhibit 1: Gitlin Decl. ¶¶ 18, 22 & 25). Dr. Gitlin testified that a person of ordinary skill would not understand "spreading" as Wi-LAN construes it, rather

[2] "Gitlin Tr. __" refers to the cited pages of the February 8, 2010 Deposition of Dr. Richard Gitlin. Copies of the cited pages are attached as Exhibit 2 to the Lee Declaration.

[3] On January 25, 2010, LGEMU filed a letter brief seeking permission to file a motion for summary judgment of invalidity based on the failure of the '802 patent to disclose an algorithm as corresponding structure for the "first computing means." (Docket No. 105). On February 11, 2010, Wi-LAN opposed LGEMU's request to file a motion for summary judgment. (Docket No. 111). As of the filing of this brief, the Court had not ruled on LGEMU's motion.

such a person would understand "spreading" to mean "expand[ing] the bandwidth of the input data symbol" to produce "a signal of larger bandwidth at the output." Dr. Gitlin testified:

> Q. … What's the ordinary meaning of spreading?
>
> A. The ordinary meaning of the spreading is to expand the bandwidth of the input data symbol. So you have a bandwidth, a narrow bandwidth signal coming in and then when you spread it, you have a signal of larger bandwidth at the output.

(Lee Exhibit 2: Gitlin Tr. 140). Wi-LAN's construction of "spreading" is flawed because it would be satisfied by use of a Fourier Transform, which Dr. Gitlin testified "is not normally viewed as spreading." (Lee Exhibit 2: Gitlin Tr. 142).

Despite the fact that nothing in the '802 patent or its file history justifies construing the term "spreading" in a manner other than its ordinary meaning, Wi-LAN seeks to construe the term "spreading" in a manner that Wi-LAN's own expert, Dr. Gitlin, characterizes as "***inconsistent*** with the ordinary meaning of spreading" to one of skill in the art. (Lee Exhibit 1: Gitlin Decl. ¶¶ 18, 22 & 25) (emphasis added).

Simply put, Wi-LAN proposes to construe the term "spreading" in a manner that would be satisfied by operations (*e.g.*, use of a Fourier Transform) that do not spread (*i.e.*, do not result in an output "signal of larger bandwidth"). (Lee Exhibit 2: Gitlin Tr. 140). As explained below, Wi-LAN's construction is not supported by the intrinsic evidence, is inconsistent with the ordinary meaning, and would render the limitation "spreading" meaningless. Accordingly, Wi-LAN's proposed construction should be rejected.

2. The '802 Patent Does Not Specially Define "Spreading"

Wi-LAN's improper construction of "spreading" is based on Dr. Gitlin's extrinsic opinion that the '802 "patent extends the ordinary meaning of spreading by referring to a Fourier Transform as a 'spreading' operation." (Lee Exhibit 1: Gitlin Decl. ¶ 18). Review of the '802

patent, however, finds no support for Dr. Gitlin's conclusion. Nowhere does the '802 patent refer to a Fourier Transform as "spreading" or as a "spreading operation." While the section of the patent cited by Dr. Gitlin ('802 patent, col. 4, ln. 66 to col. 5, ln. 12[4]) lists a number of "N-point transforms" for use in the code generator of Figure 3, including various Fourier Transforms, it is silent regarding "spreading." Moreover, Dr. Gitlin acknowledged that nothing in the cited passage (or anywhere else in the '802 patent) states that a Fourier Transform "spreads" or results in "spreading." (Lee Exhibit 2: Gitlin Tr. 190-91).

Dr. Gitlin cites claims 5-8 and 26-28 as support for his assertion that a Fourier Transform carries out spreading (Lee Exhibit 1: Gitlin Decl. ¶ 22), but these claims do not support Dr. Gitlin's view.

First, the words of claims 5-8 and 26-28 do not say that a Fourier Transform carries out spreading. Second, the relationship between these dependent claims and their antecedent claims do not support Dr. Gitlin's view. Claims 5-8 depend from claim 4 and ultimately from claim 1. Claims 26-28 depend from claim 25, which in turn depends from claim 24 and ultimately claim 23. Claims 5-8 and 26-28 are directed to the use of specified transforms (including a Fourier Transform) in a "transformer" (*see* '802 patent apparatus claims 4-8) or the step of "transforming" (*see* '802 patent method claims 25-28). The antecedent claims from which claims 5-8 and 26-28 depend, however, already require spreading – specifically, claims 1 and 24 require "invertible randomized spreading," and claim 23 requires "spreading." Thus, claims 5-8 and 26-28 are not informative as to whether a particular transform performs "spreading."

The transforms set forth in claims 5-8 and 26-28 are added by the transitional term "comprises" (*see* claims 4 and 25). Claim 4 (antecedent of claims 5-8) is directed to "[t]he

[4] Citations to the '802 patent are in the format: "col.__, ln. __." A copy of the '802 patent is submitted as Exhibit 3 to the Lee Declaration.

transceiver of claim 1 in which the first computing means ***comprises***: a transformer for operating on each set of N data symbols...." (emphasis added). Claim 25 (antecedent of claims 26-28) is similarly structured. "In the patent claim context the term 'comprising' is well understood to mean 'including but not limited to.'" *CIAS, Inc. v. Alliance Gaming Corp.*, 504 F.3d 1356, 1360 (Fed. Cir. 2007) (citation omitted). Because the words of claims 5-8 and 26-28 do not say that a Fourier Transform carries out spreading and those claims are structured so that the antecedent claims require spreading, dependent claims 5-8 and 26-28 can carry out operations other than spreading. Thus, claims 5-8 and 26-28 do not show that a Fourier Transform carries out spreading.

Further, Wi-LAN is wrong when it contends that Defendants' proposed construction of spreading would "exclude a … preferred embodiment using a Fourier transform for spreading with multiple orthogonal frequencies as in the W-OFDM system of the '222 patent" (Wi-LAN Br. 36[5]) (*citing* '802 patent, col. 5, ln. 7-12). Nothing in the '802 patent characterizes this so-called "preferred embodiment using a Fourier transform" as one that that "spreads" or results in "invertible randomized spreading." Moreover, Dr. Gitlin agreed that the '802 patent does not explicitly state that a Fourier Transform spreads. (Lee Exhibit 2: Gitlin Tr. 190-91).

Dr. Gitlin's extrinsic opinion cannot change the ordinary meaning of "spreading" to include operations that do not result in "spreading." Moreover, Wi-LAN's proposed construction renders the term "spreading" meaningless because it covers systems that do not spread. Accordingly, the Court should reject Wi-LAN's proposed construction of "spreading," which Wi-LAN's own expert states is "***inconsistent*** with the ordinary meaning of spreading to one of skill in the art." *See Edwards Lifesciences*, 582 F.3d at 1329 ("[W]e will adopt a

[5] "Wi-LAN Br." refers to Wi-LAN's Opening Claim Construction Brief filed January 21, 2010 (Docket No. 104).

definition that is different from the ordinary meaning when 'the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history.'") (citation omitted).

3. "Invertible Randomized Spreading" Requires The Use Of The Randomizer Transform

The parties' respective constructions of "invertible randomized spreading" are set forth below (emphasis added).

Wi-LAN	Defendants Motorola, UTStarcom and PCD[6]	LGEMU
spreading and applying complex constants chosen randomly, in a manner that is invertible	spreading using an invertible random***ized*** transform	spreading using an invertible random***izer*** transform

LGEMU's construction of "invertible randomized spreading" is based on the intrinsic evidence and should be adopted. LGEMU's construction requires the use of the randomizer transform. That transform is illustrated as Figure 8 in the '802 patent and described as using "complex constants chosen randomly." (Lee Exhibit 3: '802 patent, col. 3, ln. 12-14).

In contrast, Wi-LAN's construction divorces the application of "complex constants chosen randomly" from the use of a transform. Wi-LAN's construction does not require the use of a transform – only the application of "complex constants chosen randomly." Wi-LAN's construction should be rejected because it is inconsistent with the intrinsic evidence. The only reference to "complex constants" in the '802 patent is in the context of the Randomizer Transform shown in Figure 8. (*See* Lee Exhibit 3: '802 patent, col. 3, ln. 12-14, col. 5, ln. 2-3, and Figure 8).

[6] "Defendants Motorola, UTStarcom and PCD" refers to Defendants Motorola, Inc., UTStarcom, Inc., and Personal Communications Devices, LLC.

Wi-LAN's proposed construction should be rejected for the additional reason that it is in conflict with the testimony of its own expert, Dr. Gitlin, who conceded that the randomizer transform is always one of the transforms used in Figure 3 to generate the codes used for "invertible randomized spreading."

> Q. ***Would the randomizer transform always be one of the transforms selected?*** Understanding that the goal is to produce codes for use in figure 1 to produce modulated data symbols corresponding to an invertible randomized spreading of the data symbols.
>
> A. ***I would say*** that***, yes***, the randomizer transform would be what you would use in the second stage. But that is -- when you look at the figure of how you implement it, that is multiplication of the input by complex numbers. So there are other ways to do this, but ***in the context of how it's taught here, that would be what you would do.***

(Lee Exhibit 2: Gitlin Tr. 207-08) (objection omitted) (emphasis added).

Although the '802 patent provides no guidance on which transform(s) to use to produce "invertible randomized spreading," Wi-LAN's expert agrees that the only method to "randomize" disclosed in the '802 patent requires the use of the Randomizer Transform. (Lee Exhibit 2: Gitlin Tr. 207). The only "Randomizer Transform" disclosed in the '802 patent is shown in Figure 8. Accordingly, any structure for carrying out "invertible randomized spreading" must include use of the Randomizer Transform of Figure 8. Therefore, LGEMU submits that its proposed construction of "invertible randomized spreading" to mean "spreading using an invertible randomizer transform" should be adopted because it is supported by the intrinsic evidence and the testimony of Wi-LAN's expert, Dr. Gitlin.

B. "First Computing Means"

1. The "Computing Means 12" Of Figure 1 In Combination With The MC Code Generator Of Figure 3 Are Corresponding Structure For The "First Computing Means"

LGEMU and Wi-LAN agree that the "computing means 12" of Figure 1 is corresponding structure for the "first computing means," but disagree as to whether the MC code generator shown in Figure 3 is corresponding structure. LGEMU asserts that Figure 3 is corresponding structure because it is necessary for the function of producing an "invertible randomized spreading" in the "first computing means" shown in Figure 1. *See JVW Enters., Inc. v. Interact Accessories, Inc.*, 424 F.3d 1324, 1330 (Fed. Cir. 2005) ("construction of a means-plus-function limitation 'requires the court to first identify the function of the means-plus-function limitation and next identify the corresponding structure in the written description necessary to perform that function'") (*quoting BBA Nonwovens Simpsonville, Inc. v. Superior Nonwovens, LLC*, 303 F.3d 1332, 1343 (Fed. Cir. 2002)). LGEMU's construction is supported by text of the '802 patent specification and is further confirmed by Dr. Gitlin's recent deposition testimony.

Under the heading, "Summary of the Invention," the '802 patent states that "[i]n this patent, we introduce new codes, which we refer to as 'MC' codes." (Lee Exhibit 3: '802 patent, col. 2, ln. 15-16). The '802 patent then sets forth the various alleged benefits of using such "MC" codes as part of the invention. (*Id.* at col. 2, ln. 16-34). According to Dr. Gitlin, the "computing means 12" of Figure 1 of the '802 patent expressly requires the use of this "new set of codes" called "MC" codes to produce an "invertible randomized spreading."

Q. Now, what in item 12 of figure 1 produces an invertible randomized spread[ing]?

A. ... In column 4 starting at the top, "A computing means 12, operates on the plural sets of N data symbols to produce modulated data symbols corresponding to an invertible randomized spreading of the stream of data

> symbols." So it says that the codes are chosen such that they produce the invertible randomized spreading.
> ...
> A. So the codes in the patent, these multicode direct sequence spread spectrum, MC-[D]SSS, are the codes that are used and they're a new set of codes.

(Lee Exhibit 2: Gitlin Tr. 72-74) (objection omitted).

Thus, according to Dr. Gitlin, the "computing means 12" of Figure 1 requires the use of these "new" MC codes to produce an invertible randomized spreading. Dr. Gitlin agreed that the only method described by the '802 patent for generating these "MC" codes is shown in Figure 3. (Lee Exhibit 2: Gitlin Tr. 205).

> Q. Those codes are generated from the code generator figure 3?
>
> A. As we said earlier, that's one way to generate them....
>
> Q. Are there any other ways of generating them described in the patent for use in figure 1?
>
> A. There's no other method described, but it would be well-known to one of ordinary skill in the art how this is done.

(Lee Exhibit 2: Gitlin Tr. 205) (objection omitted).

The court should adopt LGEMU's construction that the "computing means 12" of Figure 1 in combination with the MC code generator shown in Figure 3 are corresponding structure for the "first computing means" because Figure 1 alone could not produce an "invertible randomized spreading."

2. The "Computing Means 12" Of Figure 4 Is Not Corresponding Structure For The First Computing Means

LGEMU (along with the other parties) in their Joint Claim Construction Statement cite "element 12" (the "computing means 12") of Figures 1 and 4 as corresponding structure for the

"first computer means."[7] Dr. Gitlin's recent testimony, however, makes clear that "element 12" of Figure 4 cannot be corresponding structure for the "first computing means" because it does not perform the recited function of "spreading."

(a) The Output Of The "Computing Means 12" Of Figure 1 Is Spread

To be corresponding structure, the "computing means" must "... produce ... an invertible randomized spreading...." The only "computing means" disclosed in the '802 patent that produces "spreading" is the "computing means 12" of Figure 1.

In Figure 1, reproduced below, the input to "computing means 12" is labeled "sym(1,k)" to "sym(N,k)" on each of the lines Dr. Gitlin termed "rails."

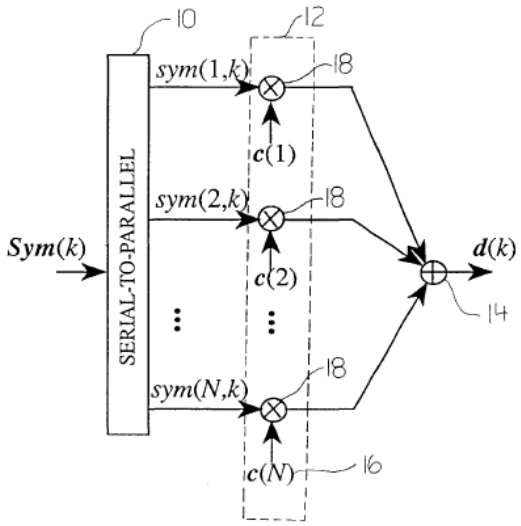

FIGURE 1

Dr. Gitlin testified that the output of the "computing means 12" of Figure 1 is "spread."

> Q. ...Let's look at figure 1, and if you look at item 12, using the definition that you just gave me for spreading, ***is the output of item 12 spreading***?

[7] Wi-LAN's contention that corresponding structure for the "first computing means" is also "a computing device programmed to perform the algorithms disclosed by the foregoing" (Wi-LAN Br. 32) does not satisfy the need to disclose an algorithm for carrying out the recited function and merely begs the question: what is the algorithm? Moreover, there is no required "linking" between the "computing device programmed..." cited by Wi-LAN and the recited function of the claims.

A. So each of the component rails -- output of item 12?

Q. Yes.

A. So the outputs are not labeled but the operation of multiplying sym(1,k) with C1 succession through the multiplier 18, ***each of those outputs will have been spread***.

(Lee Exhibit 2: Gitlin Tr. 147) (emphasis added).

(b) The Output Of The "Computing Means 12" Of Figure 4 Is Not Spread

In contrast to the "computing means 12" of Figure 1, Dr. Gitlin testified that the output of the "computing means 12" of Figure 4 is not spread. Accordingly, the "computing means 12" of Figure 4 cannot be corresponding structure of the claimed "first computing means" because it does not perform the recited function of "spreading."

The '802 patent describes the device of Figure 4 as a "transmitter." (Lee Exhibit 3: '802 patent, col. 2, ln. 58-62; col. 4, ln. 38-42 and 47-49). Within Figure 4 is a "computing means 12." Figure 4 of the '802 patent is reproduced below:

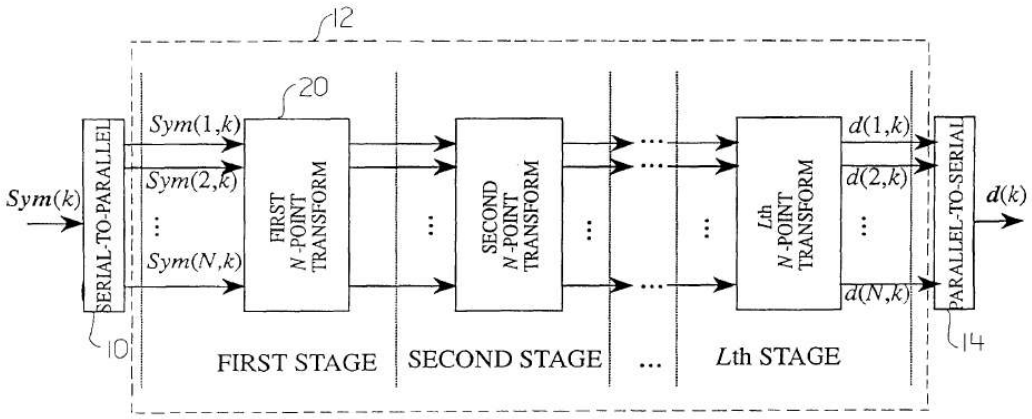

FIGURE 4

The input to Figure 4 is "*Sym(k)*" and the output is "*d(k)*." Dr. Gitlin concedes that there is ***no*** change in bandwidth – hence ***no spreading*** – from the input of the transmitter to its output, *i.e.*, from "Sym(K)" to "d(k)." Dr. Gitlin testified:

Q. So there's no spreading from sym of K to d of (k) across the device.

A. I would agree with that.

(Lee Exhibit 2: Gitlin Tr. 250) (objection omitted).

Moreover, Dr. Gitlin conceded that there is no change in bandwidth – hence ***no spreading*** – across the computing means 12 of Figure 4 (from the output of the serial-to-parallel converter 10 to the input of the parallel-to-serial converter 14). (Lee Exhibit 2: Gitlin Tr. 263) (the bandwidth is "the same"). Because the computing means 12 of Figure 4 is not a structure that produces an output that has a larger bandwidth than its input it cannot "produce modulated data symbols corresponding to an invertible randomized ***spreading*** of the first stream of data symbols." Accordingly, Figure 4 cannot be structure corresponding to the "first computing means" of claims 1, 17 or 33.

Despite Dr. Gitlin's testimony, LGEMU expects Wi-LAN to contend that "element 12" of Figure 4 is corresponding structure to the claimed "first computing means." LGEMU expects Wi-LAN to argue that the '802 patent states that a "computing means 12 operates on the plural sets of N data symbols to produce modulated data symbols corresponding to an invertible randomized spreading of the stream of data symbols" (Lee Exhibit 3: '802 patent, col. 4, ln. 2-6) and, therefore, the "computing means 12" shown in both Figures 1 and 4 must be read to perform that function. Review of the file history of the '802 patent and the patent it was reissued from (U.S. Patent 5,555,268) shows that such an argument lacks merit.

The only references to a "computing means" or a "computer" in the '802 patent (other than in the claims) are found in the first and third paragraphs of column 4. (*See* Lee Exhibit 3: '802 patent, col. 4, ln. 2-6, 21-23). But those very paragraphs – including the reference to a "computing means 12" – were not part of the original disclosure of the Wi-LAN patent application. Wi-LAN added that text by amendment nearly ***two years after*** Wi-LAN filed its patent application. (*See* Lee Exhibit 4: Wi-LAN's August 23, 1995 Response to Office Action, p. 4 (W247_00163). In doing so, Wi-LAN told the Patent Examiner "the added description on pages 3 and 4 simply describe what is shown in the figures." (*Id.*, at 12 (W247_00171)). In the same amendment, Wi-LAN modified its patent figures by adding a dashed-line box around certain elements of Figures 1 and 4, labeled the box "12," and told the Patent Examiner that "the drawings have been amended ***only*** to add reference numerals." (*Id.*) (emphasis added). Wi-LAN's original drawings had no "dashed-line box" and nothing was called a "computing means" or a "computer."[8] Figure 4 as originally filed is reproduced below (Lee Exhibit 5: '268 patent application (W247_ 00018)):

[8] Wi-LAN similarly added a dashed-line box to Figure 2 which it labeled 24 and called "second computing means" in its added text.

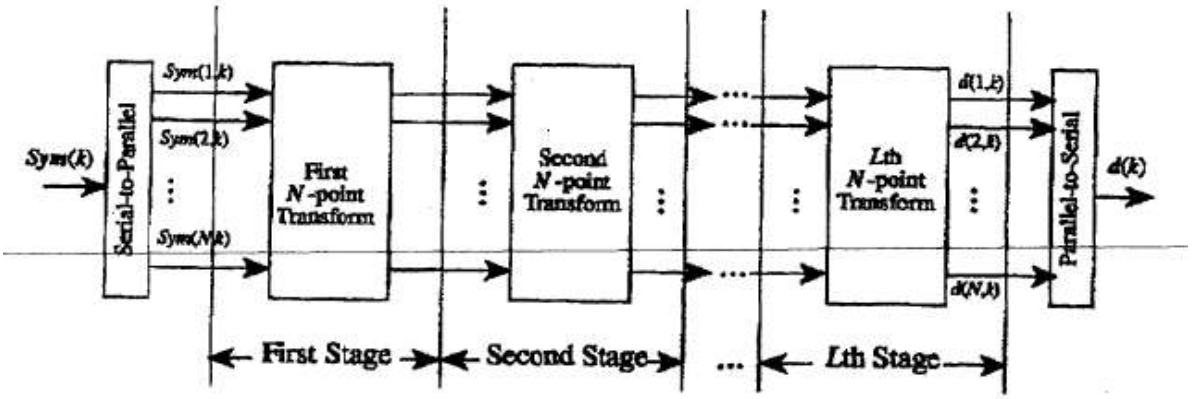

Fig. 4 The alternate transmitter for the kth MC-DSSS frame: $d(k)=[d(1,k), d(2,k) \ldots d(N,k)]$ using the MC codes generated in Figure 3 where $Sym(k)=[Sym(1,k)\ Sym(2,k) \ldots Sym(N,k)]$ is the kth information-bearing vector containing N symbols.

Reproduced below is Figure 4 as modified and issued in the '802 patent (note the addition of reference numerals and the dashed-line box "12") (Lee Exhibit 3: '802 patent):

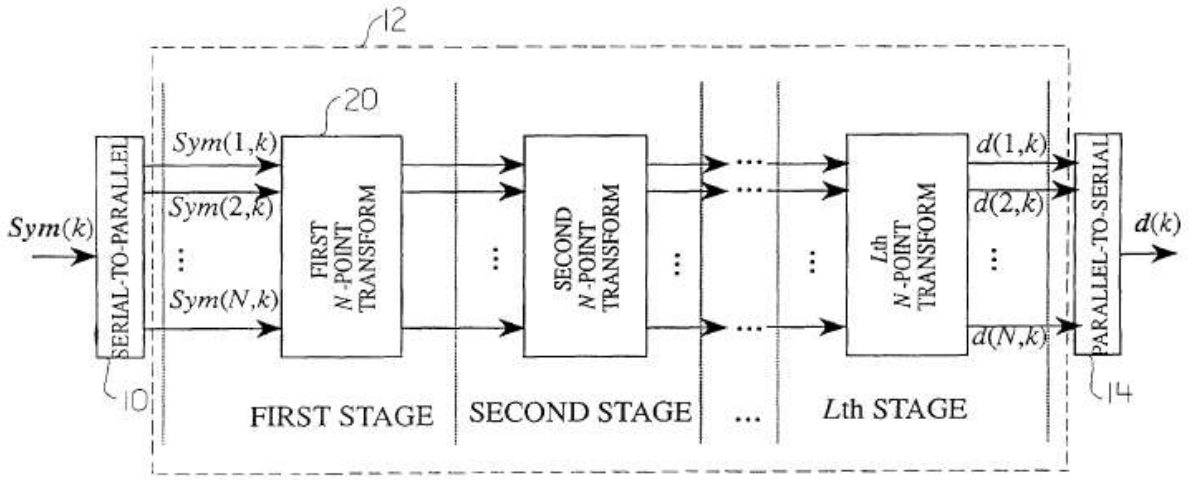

FIGURE 4

As discussed above, Wi-LAN's Dr. Gitlin testified that Figure 4 does ***not*** show spreading. (Lee Exhibit 2: Gitlin Tr. 263). Wi-LAN's representations to the Patent Office now preclude Wi-LAN from arguing that Figure 4 shows "invertible randomized spreading" simply because Figure 4 includes an element marked item "12." Wi-LAN cannot rely on the text it

added to column 4 nor the added box and numeral "12" in Figure 4 to bootstrap an argument that Figure 4 shows spreading because Wi-LAN represented to the Patent Office that the text "simply describe[s] what is shown in the figures" and "the drawings have been amended ***only*** to add reference numerals."

3. There Is No Corresponding Structure For The "First Computing Means" Because The '802 Patent Does Not Disclose An Algorithm For Achieving The Recited Function

The parties agree that "first computing means" is a means-plus-function term. The parties further agree (subject to their disagreement regarding "spreading" and "invertible randomized spreading" discussed above) on the function of the "first computing means."

The '802 patent claims a "computing means" for carrying out the recited function of "produc[ing] ... an invertible randomized spreading." To satisfy the definiteness requirement of 35 U.S.C. § 112, ¶ 2, the '802 patent's specification must disclose an algorithm for the claim's recited function. *Aristocrat*, 521 F.3d at 1334 ("'[T]he corresponding structure for a § 112 ¶ 6 claim for a computer-implemented function is the algorithm disclosed in the specification.'") (*quoting Harris*, 417 F.3d at 1249). Under Wi-LAN's approach to the claims, however, the '802 patent's specification provides no algorithm for carrying out the recited function of producing "invertible randomized spreading."

Dr. Gitlin is unequivocal in his declaration that the "term 'randomized' in the ['802] patent refers to the application of complex constants chosen randomly." (Lee Exhibit 1: Gitlin Decl. ¶ 23). Significantly, he conceded that the '802 patent fails to disclose how to generate such complex constants. (Lee Exhibit 2: Gitlin Tr. 161). This concession renders the term "first computing means" fatally indefinite because, under Wi-LAN's approach to the claims, it concedes that no algorithm is disclosed in the '802 patent for carrying out the recited function of the "first computing means."

Moreover, the '802 patent does not disclose any algorithm for selecting which N-point transform (or combination of N-point transforms) or the order that such transforms should be used to produce "invertible randomized spreading." This lack of disclosure renders the "first computing means" indefinite because, again, another critical part of the algorithm for performing the recited function is missing from the '802 patent.

(a) The '802 Patent Does Not Disclose An Algorithm For Obtaining The "Complex Constants Chosen Randomly"

Dr. Gitlin's testimony that there "are several ways known in the art to apply complex constants chosen randomly" does not satisfy the requirement that an algorithm for carrying out the claimed function must be disclosed. (Lee Exhibit 1: Gitlin Decl. ¶ 23). The issue of whether an algorithm has been disclosed is different from the question of enablement. *Aristocrat*, 521 F.3d at 1336 ("Whether the disclosure would enable one of ordinary skill in the art to make and use the invention is not at issue here. Instead, the pertinent question in this case is whether [the] patent discloses structure that is used to perform the claimed function."); *Biomedino*, 490 F.3d at 953 ("'The inquiry is whether one of skill in the art would understand the specification itself to disclose a structure, not simply whether the person would be capable of implementing that structure.'").

During prosecution, Wi-LAN told the Patent Examiner, "The ***key*** here is the randomization of the transformation." (Lee Exhibit 4: August 23, 1995 Response to Office Action, p. 15 (W247_000174) (emphasis added)). The '802 patent, however, is silent as to how this "***key***" ("randomization of the transformation") is accomplished. According to Dr. Gitlin, "The term 'randomized' in the patent refers to the application of complex constants chosen randomly, as shown in Fig. 8 of the patent." (Lee Exhibit 1: Gitlin Decl. ¶ 23). Thus, to achieve the claimed "randomized spreading," "complex constants chosen randomly" must be applied.

But, according to Dr. Gitlin, the '802 patent does not disclose the mechanism by which the complex constants are chosen. Dr. Gitlin testified:

> Q. You're saying that a randomizer transform cannot be pseudo-random noise sequences.
>
> A. Figure 8 in column 3 starting on line 13 says figure 8 is a schematic showing the randomizer transform (RT) where a 1, a 2, dot dot dot are ***complex constants, emphasize constants chosen randomly***. So they're constants.
>
> Q. The complex constants chosen randomly in figure 8 could not be pseudo-random noise sequences.
>
> A. For the duration of the frame, those signals -- those multipliers are constant. What happens in the next frame, as I said in my declaration, is these will change. And ***the mechanism by how you generate that, the patent doesn't say***.

(Lee Exhibit 2: Gitlin Tr. 160-61) (objections omitted; emphasis added). Dr. Gitlin further stated, "[T]he patent doesn't say how you generate these constants in randomized transform." (Lee Exhibit 2: Gitlin Tr. 237). Thus, under Wi-LAN's approach to the claims, the '802 patent fails to disclose the "key" to the '802 patent's alleged "invention": how to generate the complex constants that are required to produce "randomized spreading." Accordingly, the term "invertible randomized spreading" is indefinite because, under Wi-LAN's approach, the '802 patent fails to describe the algorithm for performing randomization – the "key" to the invention.

(b) The '802 Patent Does Not Disclose An Algorithm For Selecting The Transforms Or Combinations Of Transforms That Can Be Used To Produce An Invertible Randomized Spreading

According to Dr. Gitlin, the only way to achieve "invertible randomized spreading" that is *disclosed* by the '802 patent is the use of the "MC codes" generated in Figure 3 in the system depicted in Figure 1. Figure 3 shows that various "N-point transforms" are used to generate the MC codes. The N-point transforms that could be implemented in Figure 3 are listed in col. 4, ln. 66 – col. 5, ln. 6 in the '802 patent. In addition to the Fourier Transforms (which Dr. Gitlin

concedes will not result in spreading under the ordinary meaning of the term), the '802 patent lists a "Walsh Transform," a "Hilbert Transform," a "Randomizer Transform," and a "Permutator Transform," as well as the inverses of those transforms.

The '802 patent thus provides a "grab-bag" of unrelated transforms without providing any guidance as to which one or which combination will result in "invertible randomized spreading" codes. (*See* Lee Exhibit 3: '802 patent, col. 4, ln. 66- col. 5, ln. 6). Putting aside the list of Fourier Transforms, which do not spread under the ordinary meaning in the art, according to Dr. Gitlin, only the use of the Walsh Transform would result in "spreading." The use of the Hilbert, Randomizer and Permutator transforms would not result in "spreading." (Lee Exhibit 2: Gitlin Tr. 195-97). Furthermore, according to Dr. Gitlin, only the Randomizer Transform randomizes in the context of the '802 patent. (Lee Exhibit 2: Gitlin Tr. 197) ("the only one here that does randomization is RT, the randomizer transform."). Dr. Gitlin further states that Figure 3 uses both a spreading transform and a randomizer transform to produce invertible randomized spreading codes. (Lee Exhibit 2: Gitlin Tr. 226, 244). According to Dr. Gitlin, each of a randomizer transform or spreading transform alone will not produce "invertible randomized spreading" codes. But the '802 patent never discusses this protocol for producing invertible randomized spreading codes. Dr. Gitlin also testified that these MC codes must be "precisely invertible" or "orthogonal," adding in another requirement of the codes that is not explained by the '802 patent. (Lee Exhibit 2: Gitlin Tr. 228, 230, 243-44).

Moreover, Wi-LAN concedes that each of the N-point transforms are performing a matrix multiplication operation. (Lee Exhibit 2: Gitlin Tr. 227-28). Matrix multiplication is not commutative, thus Matrix A times Matrix B generally does not equal Matrix B times Matrix A. (Lee Exhibit 2: Gitlin Tr. 201). This property is significant because the '802 patent does not

provide any algorithm or guidance on how to select the "N-point Transforms" and the order in which they should be multiplied.

Dr. Gitlin's testimony demonstrates that the '802 patent fails to disclose the required algorithm. The indefiniteness inquiry for computer-based means-plus-function limitations focuses on disclosure and is not a question of enablement. Accordingly, the "first computing means" is indefinite because the '802 patent fails to provide the algorithm disclosing which transform or combination of transforms and the respective order of such transforms would result in "invertible randomized spreading."

As shown above, Figure 4 is not corresponding structure for the first computing means. However, even if Figure 4 were found to be corresponding structure, the same arguments regarding the lack of an algorithm in choosing complex constants randomly and for selecting the N-point transforms for producing an invertible randomized spreading apply to Figure 4.

IV. CONCLUSION

As explained above, LGEMU's constructions of "spreading," "invertible randomized spreading," and "first computing means" are true to the intrinsic evidence and are supported by the testimony of Wi-LAN's technical expert. Accordingly, LGEMU respectfully submits that its proposed constructions for these terms of the '802 patent should be adopted by the Court.

Respectfully submitted,

Dated: February 16, 2010

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Defendant LG Electronics Mobilecomm U.S.A. Inc.'s Patent Rule 4-5(B) Responsive Claim Construction Brief and the Declaration Of Gene W. Lee In Support Of Defendant LGEMU's Responsive Claim Construction Brief (with attached exhibits) were filed electronically in compliance with Local Rule CV-5(a). As such, these documents were served on all counsel who are deemed to have consented to electronic service. Local Rule CV-5(a)(3)(A). Pursuant to Fed.R.Civ.P.5(d) and Local Rule CV-5(e), all other counsel of record not deemed to have consented to electronic service were served with true and correct copies via facsimile and/or U.S. First Class Mail this 16th day of February, 2010.

/s/ Stuart Yothers