United States District Court,
W.D. Wisconsin.

FUJITSU LIMITED, LG Electronics Inc. and U.S. Philips Corporation,
Plaintiffs.
v.
NETGEAR, INC,
Defendant/Counterclaimant/ Third Party Plaintiff.
v.
Marvell Semiconductor, Inc,
Third Party Defendant.

No. 07-cv-710-bbc

Sept. 10, 2008.

Background: Owners of patents for technology involving wireless transmission of information brought patent infringement action against competitor. Competitor filed third party action against component supplier seeking indemnification. Parties sought claim construction.

Holdings: The District Court, Barbara B. Crabb, J., held that:
(1) term "traffic load" meant the amount of data passing between mobile terminals and a base station in a mobile communications system;
(2) term "each terminal which has predefined priority in a cell" meant each terminal in a cell that has a priority value defined before the terminal enters the cell;
(3) term "dynamic priority (DPROT)" meant a varying value calculated by a terminal and used by the terminal in determining when it may transmit user data to the base station;
(4) term "shifting to a power-on state synchronously with a received timing of a beacon signal" meant shifting to a power-on state at the same time a beacon signal is to be received; and
(5) term "code word" meant a collection of bits assembled in accordance with any code.

Claims construed.

4,975,952, 6,018,642, 6,469,993. Construed.

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OPINION AND ORDER

BARBARA B. CRABB**, District Judge.**

Plaintiffs Fujitsu Limited, LG Electronics, Inc. and U.S. Philips Corporation are suing defendant NETGEAR, Inc. for allegedly infringing United States Patents Nos. 6,469,993 (the '993 patent); 6,018,642 (the ' 642 patent); and 4,975,952 (the '952 patent). All three patents address technology involving wireless transmission of information. Defendant NETGEAR has sued third-party defendant Marvell Semiconductor, Inc. for indemnification because Marvell supplies NETGEAR with componentsof the allegedly infringing devices. Because defendant NETGEAR and third-party defendant Marvell have acted together in obtaining agreed upon constructions for disputed claim terms, I will refer to them jointly as defendants.

Plaintiff LG owns the '993 patent, which claims a method for controlling traffic load in mobile communication systems. The '993 patent's purpose is to control the amount of traffic in a communication system to assure that certain mobile terminals can send and receive information regardless of traffic load. Plaintiff Fujitsu owns the '642 patent, which claims a radio communication system that conserves power while maintaining greater data communication. Plaintiff Philips owns the '952 patent, which claims a method of data communication that permits efficient transmission and retransmission of information. (For purposes of this opinion, I use the term plaintiff to refer to the owner of the patent under discussion.)

Although 16 terms were presented in dispute, from the parties' arguments at the hearing, their pre-hearing briefs, the patent claims, patent specification and prosecution history, I conclude that judicial construction of nine terms is warranted.

OPINION

[1] [2] [3] [4] When construing claims, the starting point is the so-called intrinsic evidence: the claims themselves, the patent specification and the prosecution history. Teleflex, Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1325 (Fed.Cir.2002). Examination of the claims' language is the starting point for the well established process of claim construction. "Claim construction must adhere carefully to the precise language of the claims that the patent [examiner] has allowed." Ardisam, Inc. v. Ameristep, Inc., 336 F.Supp.2d 867, 879 (W.D.Wis.2004) (*citing* Autogiro Co. of America v. United States, 181 Ct.Cl. 55, 384 F.2d 391, 396 (1967)). The language is given its ordinary meaning as it would be understood by one of ordinary skill in the relevant art, given its context and the other patent claims. Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1342 (Fed.Cir.2001). Moreover, district courts must remain aware that "[t] he patent applicant may not have used words consistent with the dictionary definition because an applicant can act as his or her own lexicographer or may disavow or disclaim aspects of a definition 'by using words or expression of manifest exclusion or restriction, representing a clear disavowal of claim scope.' " Ardisam, 336 F.Supp.2d at 879-80 (*quoting* Golight, Inc. v. Wal-Mart Stores, Inc., 355 F.3d 1327, 1331 (Fed.Cir.2004)).

[5] [6] This initial construction is then considered in light of the specification to determine whether the inventor expressed a different meaning for the language, whether the preferred embodiment is consistent with the initial interpretation and whether the inventor specifically disclaimed certain subject matter. Rexnord, 274 F.3d at 1342-43. The specification contains a written description of the invention that is meant to help explain the invention and possibly define claim terms, Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995), but as a general rule, "limitations from the specification are not to be read into the claims." Golight, 355 F.3d at 1331. Finally, the interpretation is examined for consistency with the patent's prosecution history and any disclaimers made therein. Rexnord, 274 F.3d at 1343.

[7] [8] Last, a court may consult extrinsic evidence, such as dictionaries, treatises and expert testimony for background information and to "shed useful light on relevant art." Phillips v. AWH Corp., 415 F.3d 1303, 1317 (Fed.Cir.2005) (internal citations omitted). In general this type of evidence is less reliable than intrinsic evidence in determining the meaning of claim terms and is "unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence." Id. at 1318-19.

A. ***Plaintiff LG's*** '993 Patent

1. ***Providing dynamic priority group numbers (P_DPROTG) which will be made available depending on traffic load***

[9] I conclude that only the term "traffic load" as used in claim 1 of the '993 patent requires construction and that it means **the amount of data passing between mobile** terminals and a base station in a mobile communications system. Plaintiff contends that the claim term does not need to be construed because its plain and ordinary meaning is easily discernible from the claim language. Defendants contend that the claim language, specifically use of the acronym P_DPROTG, is ambiguous because the specification uses P_DPROTG to refer to several different terms, including dynamic priority group numbers, col. 6, lns. 4-5, group number field, col. 3, lns. 61-62, and dynamic priority group number field, col. 2, ln. 58.

Although the specification's use of P_DPROTG to represent several different terms is not a model of clarity, it is evident that the different terms all refer to the way P_DPROTG is used in the claim language. Regardless of the actual term preceding the acronym, in both the specification and claim language, P_DPROTG refers to a group number sent from a base station to a terminal. Col. 3, lns. 61-62; col. 4, lns. 9-13; col. 6, lns. 4-8. Therefore, the claim language means what it says: P_DPROTG is a dynamic priority group number.

The parties agree that a dynamic priority group number is dependent on "traffic load," but they disagree about the meaning of "traffic load." Defendants contend that traffic load is the level of data congestion on a communication network. Plaintiff contends that the plain and ordinary meaning of the term is clear. Although the meaning is not altogether clear and needs some explanation, limiting traffic load to data congestion, as defendants suggest, would be wrong in light of the specification and claim language.

According to the specification, "available traffic capacity in a cell can be determined by a bandwidth, data rate, [the strength of the base station's signal] and the like, and may be different depending on system managers." Col. 3, lns. 11-13. Determining when a cell is experiencing "traffic overload" is "dependent on an embodiment of the cell." Col. 3, lns. 14-15. One of ordinary skill in the art would understand cell to mean "the receiving area established by one base station." Claim Constr. Hrg. Transcript, dkt. # 180, at 104, lns. 14-15. The specification provides that "when a traffic overload on the cell is reduced, a value of the

dynamic priority group (DPROTG) transmitted to the terminal **10** is lowered." Col. 4, lns. 56-58. These references do not support a conclusion that traffic load is data congestion. Instead, a close reading of the specification leads to the conclusion that traffic load is associated with the amount or load of data traveling between terminals and the base station and that the amount of data load a cell can handle varies depending on the cell's make-up.

The specification does use the term "traffic overload congestion," col. 1, ln. 31, but claim 1 does not mention the word congestion. Furthermore, "traffic load congestion" is used in the specification as an alternate way in which to describe "heavy traffic load," col. 1, ln. 30, which again refers to the amount of data. Accordingly, I conclude that traffic load is the amount of data passing between mobile terminals and a base station in a mobile communications system.

2. ***Each terminal which has a predefined priority in a cell***

[10] I conclude that the term "each terminal which has predefined priority in a cell" as used in claim 1 of the '993 patent means **each terminal in a cell that has a priority value defined before the terminal enters the cell.** The parties agree that the term refers to mobile terminals in a cell. They dispute whether each terminal must have a predefined priority and when the priority is established or defined.

Plaintiff contends that use of the word "which" in the claim language means that not every terminal will have a predefined priority because "which" signifies a restrictive phrase. As a general rule, "which" denotes a non-restrictive clause and would be set off by a comma. Read in context in this claim, however, it is apparent that the patent applicants did not intend the word "which" to be non-restrictive. To the contrary, they intended it to indicate that the claimed invention does not involve the terminals that do not have a predefined priority. According to the claim language, a dynamic priority group number is provided to each terminal "which" has a predefined priority, meaning that only terminals with a predefined priority will receive a dynamic priority group number. Col. 6, lns. 4-7. Other terminals that do not have a predefined priority are irrelevant to the claimed invention.

Moreover, the specification makes it clear that the predefined priority is central to the invention. Without taking a terminal's predefined priority into account, the result is that "all services required in a traffic load congestion are refused." Col. 1, lns. 42-43. This is different from continually reconsidering a terminal's predefined priority and providing quality service to specific terminals. If, as the specification says, a terminal with a high predefined priority always receives better quality service for data transmission than a terminal with a low predefined priority, col. 5, lns. 34-39, it follows that the mobile terminal must have a predetermined priority before it can receive a dynamic priority group number.

The claim language is ambiguous about when a predefined priority is defined or established. It merely uses the term "predefined," which raises the question "defined before what?" Plaintiff contends that a predefined priority must be defined before step (2) in claim 1. Defendants contend that it must be defined in advance of system operation. Step (2) is certainly too late; a terminal needs to have its predefined priority before it can receive the dynamic priority group number provided in step (1). Also, the claim language states that the terminal has a predefined priority "in a cell," col. 6, ln. 7, which requires each terminal to have a predefined priority when it comes within a base station's receiving area, that is, a cell. However, there is no language in the claim or specification that suggests that the predefinition must be accomplished in advance of system operation, as defendant contends. It would be within the claim for a terminal to have its predefined priority determined after system operation but before the terminal enters a cell. Therefore, the claim language

supports the conclusion that predefined means before the terminal enters a cell.

3. ***Dynamic priority (DPROT)***

[11] I conclude that the term "dynamic priority (DPROT)" as used in claims 1, 2, 3 and 21 of the '993 patent means **a varying value calculated by a terminal and used by the terminal in determining when it may transmit user data to the base station.** Defendants requested that "priority level," which is used in claims 25 and 26, be construed with "dynamic priority." Although those terms serve essentially the same purpose, they are different terms used in separate and independent claims and they should not be given the same meaning. For example, according to the claim language, a "dynamic priority" is calculated, col. 6, ln. 12, while a "priority level" is set, Certif. of Correction, Claim 25, col. 8, ln. 50. This means the two values are determined in different ways and should not be construed to have the same meaning. Therefore, only dynamic priority will be construed in this opinion.

Plaintiff contends that no construction is necessary. Defendants contend that a dynamic priority is "the value associated with a terminal and used to determine the order in which the terminal is served by the base station." Defendants' contention is too broad. Both a dynamic priority and a dynamic priority group number are values "associated" with a terminal. The claim language states that a "dynamic priority" is "calculated" by a terminal. Col. 6, ln. 12. Therefore, to distinguish between the terms, "dynamic priority" must be further limited to a value calculated by a terminal.

Second, saying that a dynamic priority is used to determine the order of service adds nothing to the claim language. Claim 1 states that the dynamic priority calculated by a terminal is used to determine when to execute a user data transmission to the base station. Col. 6, lns. 18-20. There is no reason to use new wording to explain the term, when the claim language already explains the purpose of dynamic priority.

4. ***Transmitting a permitted dynamic priority group number (P DPROTG) from the system to each terminal in fixed time intervals depending on the traffic load***

I conclude that the term "transmitting a permitted dynamic priority group number (P_DPROTG) from the system to each terminal in fixed time intervals depending on the traffic load" as used in claim 1 of the '993 patent does not need construction because its plain and ordinary meaning is easily discernible from the claim language. Housey Pharmaceuticals, Inc. v. Astrazeneca UK Ltd., 366 F.3d 1348, 1352 (Fed.Cir.2004) (citation omitted). The part of the term that would need construction, "traffic load," has already been construed to mean the amount of data passing between mobile terminals and a base station in a mobile communications system. The remainder of the term is plain. Therefore, no further construction is necessary.

5. ***Setting a priority level of each of a plurality of mobile terminals***

I conclude that the term "setting a priority level of each of a plurality of mobile terminals" as used in claim 25 of the '993 patent does not need construction because its plain and ordinary meaning is easily discernible from the claim language. Defendants contend that the word "setting" should be changed to "calculating" and the words "priority level" be changed to "dynamic priority," but those changes are not supported by the claim language. Had the inventors meant to use "calculating" and "dynamic priority," they could have done so. They were aware of those words because they used them in other claims. Furthermore, a dynamic priority is calculated because it can change, whereas a priority level is set because it is not a variable, that is, it does not change once it is set.

B. *Plaintiff Fujitsu's* '642 Patent

1. *Time extension information*

[12] I conclude that the term "time extension information" as used in claims 2, 6 and 8 of the '642 patent means **one or more bits indicating that the intermittent power-on** type mobile station must receive data beyond the data receive-ready period. The parties agree that time extension information is one or more bits indicating that data must be received beyond the data receive-ready period. However, they do not agree on when the time extension information is sent from the base station to the mobile station. Defendants contend that it is sent at the beginning of the data receive-ready period and plaintiff contends that it is sent at the end. Neither party is correct.

Defendants ground their construction in the claim language that says that time extension information is "originally" reported by the base station. Defendants contend that the plain and ordinary meaning of "originally" is at the beginning, and therefore, the time extension information is sent at the beginning of the receive-ready period, that is, before the base station transmits any data. On its face, defendants' position is persuasive. Standing alone, the patentee's use of the term suggests "initially" or "at the beginning." However, as even defendants' cited definition proves, "originally" can mean either origin or beginning Dfts.' Br., dkt. # 138, at 78 (citing Webster's New International Dictionary at 1592). Of more significance, the specification adds support for this less intuitive meaning.

The specification states

when there is data to be transmitted to the intermittent power-on type mobile station **13** beyond the data receive-ready period ... data to which time extension information showing the above-mentioned situation is added is transmitted.... The time extension information can be reported by including the same into transmission data to be transmitted from the data transmission processing unit **42** in the base station **11** to the intermittent power-on mobile station **13** *or* including the same into a beacon signal transmitted from the beacon transmission processing unit **41.**

Col. 20, lns. 10-16, 32-37. (Emphasis added). According to the specification, time extension information is added to data sent in *either* a data transmission *or* a beacon signal. Under defendants' construction, that time extension information must be sent before the base station transmits any data, that is, at the beginning or initially, transmission of that information would be limited to beacon signals, which are sent before the base station transmits data. Such a construction would exclude one of the specification's preferred embodiments and, for that reason, is not likely to be correct. C.R. Bard, Inc. v. U.S. Surgical Corp., 388 F.3d 858, 865 (Fed.Cir.2004) (quoting Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed.Cir.1996)) ("[A] construction that excludes a preferred embodiment 'is rarely, if ever, correct.' ").

Defendants also contend that "originally" has to mean at the beginning because, during prosecution, in an effort to distinguish the invention from prior art, the applicants stated that time extension information had to be sent at the beginning of the data receive-ready period. Defendants cite the prosecution history, where the applicants were trying to differentiate the ' 642 patent from prior art:

This is in contrast to the present invention as claimed, in which a normal receive-ready period for data reception may be extended by transmission of the extension information from the base station at the time of the shift to power-on when a beam signal for the base station is received.

File History, dkt. # 53, part 2, at FJ000197. Defendants characterize the applicants' statement as an "unequivocal representation by applicants ... that the base station sends the time extension informationto applicants at the beginning of the process...." Dfts.' Br., dkt. # 138, at 85. In fact, the applicants' statement was not unequivocal. They said that the information telling the mobile station to extend the data receive-ready period *may* come at the beginning of the process. Furthermore, when the applicants added the claim term "originally," they argued that the new addition made the claim different from the prior art because in the prior art, data timing information originated from "the user terminal," that is, the mobile station, whereas in the applicants' invention, time extension information originates from the base station. File History, dkt. # 53, part 2, at FJ000347-48. Therefore, the patent prosecution history does not support defendants' argument that time extension information must be sent at the beginning of the process.

Plaintiff is wrong when it argues that the time extension information can come only at the end of the receive-ready period in the form of a beacon signal. At the claims construction hearing, plaintiff argued that the specification's explanation of how time extension information can be transmitted as a data transmission, as opposed to a beacon signal, was "a possible embodiment that was not claimed." Claim Constr. Hrg. Tr., dkt. # 180, at 69, lns. 2-3. However, plaintiff has given no reason, and none is apparent in the claim language, why transmitting time extension information in a beacon signal has to be the only way. The preferred embodiments of the invention set forth in the specification are meant to contain "a written description of the invention which must be clear and complete enough to enable those of ordinary skill in the art to make and use it." Vitronics Corp., 90 F.3d at 1582. It makes little sense to teach an embodiment in the specification and then not claim it.

Moreover, the claim language itself does not expressly limit how or when time extension information is sent. Had the claim language stated "time extension information transmitted in a beacon signal," this may have been one of the rare situations in which the claim language excluded a preferred embodiment, but that is not the case here. Because plaintiff's construction would exclude a preferred embodiment of the invention, I reject it.

Plaintiff contends further that time extension information must be sent at the end of the data receive-ready period because "only at the end ... can it be known whether this additional time is needed." Plt.'s Reply Br., dkt. # 149, at 38. Plaintiff is incorrect. Although the base station may not realize that data transmission may exceed the data receive-ready period until the end, there is no reason the base station cannot reach that realization sooner if the circumstances permit. The base station could compare the mobile station's data receive-ready period and the amount of data being transmitted to the mobile station. Using that information, the base station could conclude early on that it will not be able to transmit all necessary data during the data receive-ready period. Therefore, plaintiff's construction is too limiting in light of the claim language and the specification.

I am not persuaded by either plaintiff's or defendants' construction limiting the definition of time extension information to a specific time, that is, at the beginning or end. The claim language does not limit when time extension information is sent and the specification teaches that it can be sent in either a data transmission or beacon signal at any time, so long as the base station is aware that data must be sent beyond the mobile station's data receive-ready period.

2. ***Beacon signal***

[13] I conclude that the term "beacon signal" as used in claims 2, 6 and 8 of the '642 patent means **a radio**

transmission from a base station to an intermittent power-on type mobile station, received when the intermittent power-on type mobile station is in the powered-on state and indicating whether there is data to be delivered to the intermittent power-on mobile station. The parties agree that a beacon signal is a radio transmission from a base station to mobile station, including intermittent power-on type mobile stations. However, plaintiff contends that defining a beacon signal as claimed in the ' 642 patent requires more. Plaintiff says that a beacon signal must be receivable only by "awake" mobile stations and must have the ability to indicate whether there is data to be delivered to the client station; otherwise a beacon signal would be indistinguishable from any other signal sent by a base station. Although these limitations are not in the claim language, plaintiff contends that they are necessary in light of the specification.

[14] Generally, when a claim recites a general structure without limiting the structure to any specific subset, the claim term should be construed to cover all types of that structure. CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed.Cir.2002). However, such a broad interpretation of a claim term should be limited "if 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." Id. Although the claim language in this case refers only to a beacon signal or beacon signals, col. 26, lns. 4-5, the specification's preferred embodiments and the figures associated with the preferred embodiments describe two types of beacon signals: (1) power-saving control beacon signals; and (2) normal beacon signals. Col. 18, lns. 35-43; fig. 15. Although plaintiff's construction does not say explicitly that beacon signal as used in the claim language should be defined as a power-saving control beacon signal, its proposed construction is founded on sections of the specification referring to a "power-saving control beacon." Pltf.'s Reply Br., dkt. # 149, at 22 (citing col. 18, lns. 22-25, 36-38). Moreover, it is clear from the specification that the patentees were acting as their own lexicographers by defining beacon signal, as used in the claim language, to mean a power-saving control beacon signal.

According to the specification,

The intermittent power-on type mobile station **13** shifts [to] its powered-on state under the power control unit **76** synchronously with the receiving timing of a power-saving control beacon signal. As a result, a constant period of time after receiving a beacon signal is set as the data receive-ready period.

The control beacon analyzing unit **71** ***a*** analyzes transmission data information ... included in a received beacon signal. The power supply is maintained in an on-state when there are data for a self station, and the power supply is turned off when there are no data for self station.

Where the transmission timing of a beacon signal is not a transmission timing of a power-saving control beacon ..., there are no intermittent power-on type mobile stations **13** under the base station **11 ...,** or a data transmission request is not issued to any one of intermittent power-on mobile station **13** in the base station **11** ... the normal beacon producing unit **41** ***a*** produces and transmits a beacon signal to the normal mobile station **12.**

Col. 18, lns. 13-34. According to this section of the specification, an intermittent power-on type mobile station receives only power-saving control beacon signals because the intermittent power-on type mobile station powers on only when it is supposed to receive such a beacon signal. In contrast, normal beacon signals are sent to and received only by normal mobile stations, not intermittent power-on type mobile stations. These explanations of two different types of beacon signals make sense in light of the purpose of the invention, which is to reduce power consumption by having intermittent power-on type mobile stations

power on only when there is data for them to receive. Col. 4, lns. 6-7; col. 18, lns. 3-7.

The specification provides further insight into the way the two types of beacon signals are used, in connection with Figure 15:

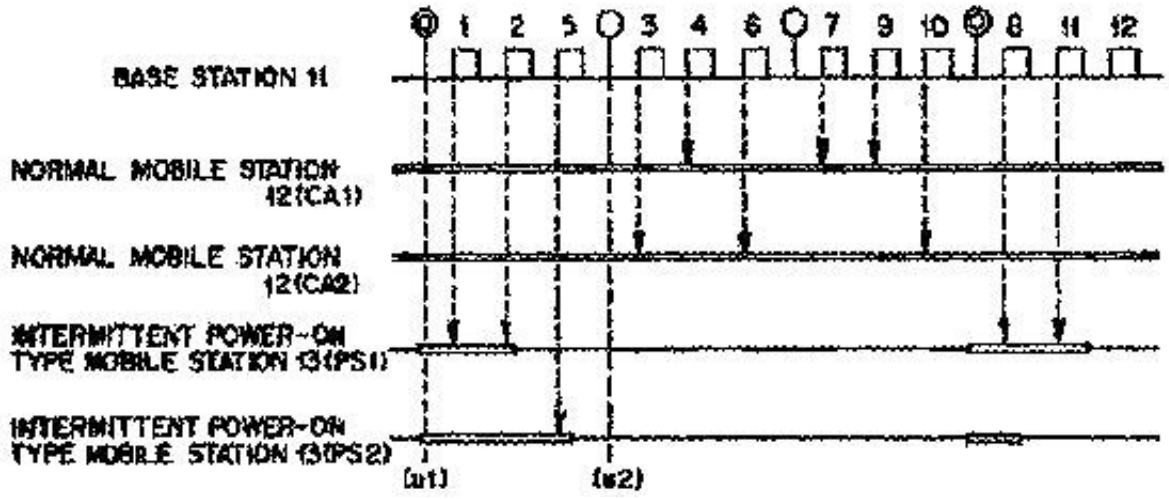
In operation, as shown in the timechart in FIG. **15,** the beacon transmission processing unit **41** in the base station **11** transmits a power-saving station control beacon (refer to the symbol "

FIG. 15



") every two beacon signals among beacon signals transmitted to two normal mobile stations (CA1, CA2) **12** and two intermittent power-on type mobile stations (PS1, PS2) **13,** and transmits a [normal] beacon (refer to symbol "*") for normal mobile stations prepared by the remaining two normal beacon producing units **41** ***a.***

FIG. 15



Col. 18, lns. 35-43. As demonstrated in Fig. 15, the intermittent power-on type mobile stations power on to receive power-saving control beacon signals but they stay in a powered-off state when normal beacons are sent from the base station. As previously explained, those power-saving control beacon signals contain transmission data information that the power-on type mobile station uses to determine whether there is data coming or not. Col. 18, lns. 19-25.

Use of the term "beacon signal" in the claim language relates to beacon signals received by and transmitted to intermittent power-on types of mobile stations. Col. 26, lns. 4-5, 7-8; col. 27, lns. 17, 21-25; col. 28, lns. 10-15. Therefore, it is clear that, as used in the claim language, beacon signal must be a power-saving control beacon signal and defined accordingly. I conclude that if beacon signal is construed to specify that it is received when the intermittent power-on type mobile stationis in the powered-on state and that it indicates whether there is data to be delivered to the intermittent power-on mobile station, the definition captures the patentees' intent.

3. ***Data receive-ready period***

[15] I conclude that "data receive-ready period" as used in claims 2, 6 and 8 of the '642 patent means **a fixed period of time during which an intermittent power-on type mobile station is in its power-on state and prepared to receive data, with the period beginning immediately after the intermittent power-on type mobile station receives the first beacon signal telling it there is data to be transmitted to it.** The claim language defines the data receive-ready period as "a fixed period of time after the beacon signal has been received." Col. 26, lns. 4-5. Plaintiff contends that any construction of data receive-ready period requires the ending point of the "fixed period" to be the next beacon signal received by the intermittent power-on type mobile station.

Plaintiff supports its contention with a cite to a section in the specification that explains that "the period during which the next beacon signal is received is used as a data receive-ready period...." Col. 1, lns. 56-57. First, this section of the specification is entitled "description of the related art," which brings into question whether that part teaches what the patent claims or merely provides background about the technology from which the invention arises. Assuming that the specification section cited by plaintiff describes an embodiment of the claimed invention, the cited section says that the beacon interval period is "used as" a data receive-ready period. "Used as" means that some other "fixed period" could also be "used as" a data receive-ready period.

Had the inventors wanted to define the "data receive-ready period" as only a "beacon interval," they could have written as much in the claim language or, at the very least, in other parts of the specification. Instead, the specification and claim language refer repeatedly to "a fixed period," "a predetermined period" or a "constant period" after the beacon signal has been received. Col. 11, ln. 20; col. 13, lns. 2, 62; col. 18, lns. 16-17; col. 16, ln. 4; col. 27, ln. 24; col. 28, ln. 14. According to the claim language and specification, a data receiveready period has two necessary components: (1) the period must be "fixed" and (2) it begins after the intermittent power-on type mobile station receives a beacon signal telling it there is data waiting to be transmitted. However, the ending of this period may be another beacon signal or merely a time period, such as one second. Therefore, limiting the data receive-ready period to a beacon interval would be wrong in light of the claim language and specification.

The parties have a second dispute about data receive-ready period: whether the mobile station "must be" in the power-on state during the entire period. Plaintiff contends that a mobile station that finishes receiving data before the end of the data receive-ready period has the option of returning to a power-off state, and therefore, it is wrong to say that a station "must be" in its power-on state during the entire fixed period that makes up the data receive-ready period. Plaintiff contends that instead of using "must be," the term should be construed as saying that the station "is in" its power-on state during the data receive-ready period. Essentially, plaintiff agrees that the station must be in its power-on state to receive data, while at the same

time it maintains its position that a mobile station can enter its power-off state during a data receive-ready period once it has received all the data being transmitted. Plaintiff's contention is persuasiveand correct in light of the claim language and specification.

The claim language does not require a mobile station to be in its powered-on state during the entire data receive-ready period. Under defendants' view that it "must be," the result would be a narrowing of the claim: the mobile station could never enter its power-off state during the fixed period designated as the data receive-ready period. The broad claim language permits an embodiment of the invention in which a mobile station remains in a powered-on state during the entire data receive-ready period, but also permits an embodiment in which the mobile station powers off once all data is received even before the end of the fixed period that is the data receive-ready period. Furthermore, a construction that covers an embodiment permitting the mobile station to power off once all data is received fits with the invention's purpose of reducing power consumption. Col. 4, ln. 6. Therefore, it will avoid ambiguity to say that the mobile station "is in" a powered-on state, as opposed to stating that it "must be" in a powered-on state, while still expressing the need for a mobile station to be in its powered-on state to receive data.

Moreover, the preferred embodiment of the invention as provided in Fig. 15 (supra at 19) demonstrates how intermittent power-on type mobile stations can switch from their powered-on state to their powered-off state when they are through receiving data. The figure shows an embodiment in which intermittent power-on type mobile stations, PS 1 and PS2, shift to their powered-off state at different times, that is, PS 1 enters a powered-off state after receiving data transmission two and PS2 enters a powered-off state after receiving data transmission five. In both circumstances, the intermittent power-on mobile stations power off even before the end of their data receive-ready period, which is fixed as (u1) to (u2) according to the figure. Therefore, a fixed period, (u1) to (u2), remains while permitting intermittent power-on type mobile stations to conserve power by powering off once they have received all the data waiting for them.

4. ***Fixed period of time***

I conclude that the term "fixed period of time" as used in claims 2, 6 and 8 of the '642 patent does not need construction because its plain and ordinary meaning is easily discernible from the claim language. The term is clear and nothing in the claim language or the specification necessitates a special definition. Therefore, the plain and ordinary meaning controls. Northern Telecom Ltd. v. Samsung Electronics Co., 215 F.3d 1281, 1295 (Fed.Cir.2000).

5. ***Shifting to a power-on state synchronously with a received timing of a beacon signal***

[16] I conclude that the term "shifting to a power-on state synchronously with a received timing of a beacon signal" as used in claims 2, 6 and 8 of the '642 patent means **shifting to a power-on state at the same time a beacon signal is to be received.** Defendants contend that the intermittent power-on type mobile station is powered on by receiving a beacon signal. This contention is not supported by the claim language or specification.

The claim language states that the mobile station is powered on " *synchronously* with a received timing of a beacon signal." Nothing in the claim indicates that the patentees' use of the word "synchronously" is different from the plain and ordinary meaning of the word. If two things are happening synchronously, they happen at the same time. One does not cause the other to happen. Also, the claim language states that shifting to a power-on state happens "with a received timing of a beaconsignal," not when a beacon signal is received. It is clear from the claim language that "a received timing" is a specific time, that time being the

time when a beacon signal is supposed to be received by the mobile station. Col. 26, lns. 2-4.

The specification adds further support to the understanding that the mobile station powers on of its own accord when it is to receive a beacon signal, as opposed to powering on after it receives a beacon signal. In a description of one embodiment, the specification states, "after being powered on at the beacon receiving timing under control of the power control unit **76** ..., the intermittent power-on type mobile station **13** receives a beacon signal for the intermittent power-on type mobile station **13**...." Col. 22, lns. 51-55. If the beacon signal activated the mobile station, this embodiment would be excluded from the claim language. As the specification says, the beacon signal is not received until *after* the mobile station's power control unit has already shifted the mobile station into a powered-on state.

Defendants contend that a beacon signal must "wake up" or activate a "sleeping" mobile station because the patentees made an unequivocal disclaimer of a contrary approach during prosecution of the patent. Defendants cite the following statement made by the patentees during prosecution of the patent:

Leslie et al. discloses a battery saving circuit for radio receivers in which a radio receiver circuit is intermittently powered through a controllable power supply switch so that the power is off when no reception is performed. ***Leslie et al.*** discloses that the control of the power supply for the receiver is controlled by a *programmable* timing mechanism for removing operating power from the receiver for a time duration which is commanded by electrical control signals received from a central control station.

This is in contrast to the present invention, in which the base station emanates a beacon signal which determines if and when the intermittent power-on type mobile station will be activated (powered-up) to receive data in a data receive-ready period of normally fixed duration. In the present invention the beacon signal activates a "sleeping" power supply to allow data to be received, while in ***Leslie et al.*** the control signal determines how long the receiver's power supply will "sleep". The Examiner has apparently failed to understand or appreciate this important distinction.

File History, dkt. # 53, part 2, at FJ000312. (Emphasis in original). Contrary to defendants' characterization, this statement in the prosecution history is not the clear and unambiguous statement necessary to prove that the patentee disclaimed what the claim and specification explicitly state. Verizon Services Corp. v. Vonage Holdings Corp., 503 F.3d 1295, 1306 (Fed.Cir.2007) ("To operate as disclaimer, the statement in the prosecution history must be clear and unambiguous, and constitute a clear disavowal of scope.")

The cited statement does not make it clear whether the applicants were distinguishing the new invention from the prior art because the beacon signal caused the mobile station to shift to a powered-on state or because the base station, and not the mobile station, was the station that determined when the mobile station should power on to receive data. Moreover, the examiner provided the following response to the applicants' statement:

Regarding applicant's remarks toward Leslie et al., the examiner maintains that Leslie et al. meets the broadly claimed limitation requiring "an intermittent power-on type mobile for shiftingto a power-on state synchronously with a received timing of a beacon signal". Any differences in implementation are simply not claimed.

File History, dkt. # 53, part 2, at FJ000331. From the examiner's response, it is obvious that he rejected the applicants' attempt to differentiate the present invention from Leslie.

Without changing the "shifting to a power-on state synchronously with a received timing of a beacon signal" language in the patent claims, the applicants replied to the examiner's decision to deny the patent with other arguments and amended claims, but they never restated the previous contention they had made with regard to the Leslie patent. After this final submission by the applicants, the office granted the patent. At most, the effect of the applicants' earlier statement regarding the present invention and the Leslie patent is ambiguous. An ambiguous statement in the prosecution history is not enough to overcome explicit claim language and specification explanations to the contrary.

6. ***Data is to be transmitted continuously beyond said data receive-ready period***

[17] I conclude that the term "data is to be transmitted continuously beyond said data receive-ready period" as used in claims 2, 6 and 8 of the ' 642 patent means **the base station will transmit data beyond the data receive-ready period, without ceasing transmission because of the intermittent power-on type mobile station's shift to a powered-off state.** The parties's dispute centers on the word "continuously." Defendants contend that "continuously" means without any interruption. From my reading of the term in the context of the claim language, I am convinced that defendants' contention is too broad.

The pertinent paragraph in claim 2 states:

said base station taking the initiative, *if said data is to be transmitted continuously beyond said data receive-ready period of said intermittent power-on type mobile station,* to originally report to said intermittent power-on mobile station, as time extension information, that data must be received beyond said data receive-ready period;

Col. 26, lns. 14-21. (Emphasis added). In context, the entire underlined phrase relates to the circumstances that must be present for the base station to provide the mobile station with "time extension information," those circumstances being when the base station will continue to transmit data after the data receive-ready period ends. Such circumstances were a specific problem with the prior art. *E.g.,* col. 2, lns. 29-31 ("Hence even if a transmission request occurs early, data beyond the limit in a period is forwarded to the next transmission timing.") Instead of forwarding data to the next transmission timing, the claimed invention's base station sends "time extension information" to the mobile station and the mobile station responds by remaining in its power-on state past its data receive-ready period so that the base station may continue to transmit the data. Col. 19, lns. 54-64. Therefore, the use of "continuously" refers to the ability of the base station to continue to transmit data without having to stop because the mobile device has entered its power-off state.

It would be too broad a construction to define "continuously" as uninterrupted. Something may still interrupt or delay the base station as it sends data. For example, an occurrence of "up-stream data" would suffice. Col. 22, lns. 17-23. A base station may still make sure that data is "continuously transmitted" to the mobile station, even when such an interruption as up-stream data occurs, by sending "time extension information" to the mobile stationso that it "maintains the powered-on state until all pieces of data have been transmitted continuously from the base station **11,** thus extending the data receive-ready period." Col. 21, lns. 14-17. Therefore, "transmitted continuously" cannot mean that data being sent from the base station is never interrupted; instead, the correct construction of "transmitted continuously" means the base station can transmit it without having to stop because the mobile station has entered its power-off state.

7. *Base station taking the initiative ... to originally report to said intermittent power-on mobile station, as time extension information*

I conclude that the term "base station taking the initiative ... to originally report to said intermittent power-on mobile station, as time extension information" as used in claims 2 of the '642 patent does not require construction in light of the court's construction of other claim terms. Defendant contends that "originally report" means to report at the beginning of the data transmission process, that is, when the mobile station shifts to its powered-on state. However, as I concluded in construing the term time extension information, the applicant's use of "originally" refers to the source, or origin, of the report and not to the time the report is sent. I will construe the claim term at issue in this section in accordance with its plain and ordinary meaning and with my previous construction.

C. *Plaintiff Philips's* '952 Patent

1. *Code word*

[18] [19] I conclude that the term "code word" as used in claim 1 of the '952 patent means **a collection of bits assembled in accordance with any code. The parties' dispute centers on the use of the word "any," with defendants contending that the word "a" should replace "any." Neither the claim language or the specification requires the use of a specific code.** The specification does use a "64-bit address code word" in the preferred embodiment, col. 4, ln. 11, but there is no indication that such a specific code word was anything other than a preferred embodiment. "[A] patent claim term is not limited merely because the embodiments in the specification all contain a particular feature." C.R. Bard, Inc., 388 F.3d at 865. Therefore, defendants' contention is incorrect in light of the claim language.

2. *Segmenting*

I conclude that the term "segmenting" as used in claim 1 of the '952 patent does not require construction because its plain and ordinary meaning is easily discernible from the claim language. The claim language and specification establish that "segmenting" data code words means nothing more than dividing and grouping code words. However, defendants contend that a proper construction of "segmenting" includes the patent's inventive process referred to as selective retransmission, which involves assembling groups of code words, including those code words that must be retransmitted together with new code words, so that an entire segment is not required to transmit repeated code words. Col. 3, lns. 31-37.

[20] [21] Defendants' contention fails to take the doctrine of claim differentiation into consideration. Under that doctrine, " '[t]here is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims. To the extent that the absence of such difference in meaning and scope would make a claim superfluous, the doctrine of claim differentiation states the presumption that the difference between claims is significant.' " Toro Co. v. White Consolidated Industries, Inc., 199 F.3d 1295, 1302 (Fed.Cir.1999) (quoting Tandon Corp. v. United States Int'l Trade Comm'n, 831 F.2d 1017, 1023 (Fed.Cir.1987)). Here, claim 2, which depends from claim 1, states, "including within a transmitted segment retransmitted data code words and new data code words." Col. 8, lns. 13-14. If "segmenting" in claim 1 were to be defined as requiring repeated code words and new code words to be grouped together, then claim 2 would be superfluous. Claim 1 claims a message and segment identification scheme that can be used with either non-selective or selective retransmission of message segments. Although, as defendants note, the specification describes "selective retransmission," that is only a part of the invention, a part that is claimed in claim 2, not claim 1.

Defendants also contend that a purpose of the invention was "selective retransmission," and therefore, it must be included in claim 1. There is no requirement that all important aspects of an invention be claimed in claim 1. Instead, claim 1 focuses on identifying segments that need to be retransmitted. In accordance with claim 2, those segments identified as needing retransmission can then be selectively retransmitted. Therefore, defendants' contention fails under the doctrine of claim differentiation.

3. ***Segments each of a predetermined length***

I conclude that the term "segments each of a predetermined length" as used in claim 1 of the '952 patent, does not require construction because its plain and ordinary meaning is easily discernible from the claim language. The term is clear and nothing in the claim language or the specification establishing a special definition; therefore, the plain and ordinary meaning controls. Northern Telecom Ltd., 215 F.3d at 1295.

4. ***Segment includes retransmission of code words which were included in a previously transmitted segment of the same message***

I conclude that the term "segment includes retransmission of code words which were included in a previously transmitted segment of the same message" as used in claim 1 of the '952 patent does not require construction because its plain and ordinary meaning is easily discernible from the claim language. Again, defendants contend that the patent's inventive process of selective retransmission should be imported into claim 1. Besides the doctrine of claim differentiation preventing such an importation, reading the language in context provides further support against reading selective retransmission into this term in claim 1.

The pertinent part of claim 1 states:

including in each segment of a message a code word which includes the segment identification number and also indicates whether such *segment includes retransmission of code words which were included in a previously transmitted segment of the same message*.

Col. 8, lns. 5-10. (Emphasis added). The broad scope of the claim language covers a device in which each segment contains a code word that indicates whether the segment contains retransmitted code words, but the device does not have to indicate whether the segment contains only retransmitted code words (non-selective retransmission) or retransmitted and new code words (selective retransmission). Claim 1 merely provides the indicators or identifiers regarding a segmented message transmission. Defendants' contention to the contrary is not supported by the claim language or the specification. According to the specification, the method of transmitting message data in accordance with the patent's invention involves "[m]essage and segment identification schemes." Col. 3, lns. 61-62. Claim 1 provides just such a message and segment identification scheme. Therefore, the claim term needs no further construction.

ORDER

IT IS ORDERED that:

1. The disputed claim terms of United States Patents No. 6,469,993 are construed as follows:

-> "providing dynamic priority group numbers (P_DPROTG) which will be made available depending on traffic load" as used in claim 1 of the '993 patent means **providing dynamic priority group numbers that**

will be made available depending on the amount of data passing between mobile terminals and a base station in a mobile communications system;

-> "each terminal which has predefined priority in a cell" as used in claim 1 of the '993 patent means **each terminal in a cell that has a priority value defined before the terminal enters the cell;**

-> "dynamic priority (DPROT)" as used in claims 1, 2, 3 and 21 of the ' 993 patent means **a varying value calculated by a terminal and used by the terminal in determining when it may transmit user data to the base station.**

2. The disputed claim terms of United States Patents No. 6,018,642 are construed as follows:

-> "time extension information" as used in claims 2, 6 and 8 of the '642 patent means **one or more bits indicating that the intermittent power-on type mobile station must receive data beyond the data receive-ready period.**

-> "beacon signal" as used in claims 2, 6 and 8 of the '642 patent means **a radio transmission from a base station to an intermittent power-on type mobile station, received when the intermittent power-on type mobile station is in the powered-on state and indicating whether there is data to be delivered to the intermittent power-on mobile station;**

-> "data receive-ready period" as used in claims 2, 6 and 8 of the '642 patent means **a fixed period of time during which an intermittent power-on type mobile station is in its power-on state and prepared to receive data, with the period beginning immediately after the intermittent power-on type mobile station receives the first beacon signal telling it there is data to be transmitted to it;**

-> "shifting to a power-on state synchronously with a received timing of a beacon signal" as used in claims 2, 6 and 8 of the '642 patent means **shifting to a power-on state at the same time a beacon signal is to be received;**

-> "data is to be transmitted continuously beyond said data receive-ready period" as used in claims 2, 6 and 8 of the '642 patent means **the base station will transmit beyond the data receive-ready period, without ceasing transmission because of the intermittent power-on type mobile station's shift to a powered-off state.**

3. The disputed claim terms of United States Patents No. 4,975,952 are construed as follows: "code word" as used in claim 1 of the '952 patent means **a collection of bits assembled in accordance with any code;**

4. The other disputed claim terms addressed in this opinion should retain their plain and ordinary meaning.

W.D.Wis.,2008.
Fujitsu Ltd. v. NETGEAR, Inc.

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