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

ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV438
	§	
HUAWEI TECH. CO. LTD., ET AL.	§	
_____	§	
	§	
ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV439
	§	
HUAWEI TECH. CO. LTD., ET AL.	§	
_____	§	
	§	
ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV440
	§	
HUAWEI TECH. CO. LTD., ET AL.	§	
_____	§	
	§	
ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV441
	§	
HUAWEI TECH. CO. LTD., ET AL.	§	
_____	§	
	§	
ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV443
	§	
ZTE CORPORATION, ET AL.	§	
_____	§	
	§	
ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV444
	§	
ZTE CORPORATION, ET AL.	§	
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ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV445
	§	
ZTE CORPORATION, ET AL.	§	
	§	
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ADAPTIX, INC.	§	
	§	
v.	§	No. 6:13CV446
	§	
ZTE CORPORATION, ET AL.	§	
	§	

MEMORANDUM OPINION AND ORDER

The above-referenced case was referred to the undersigned United States Magistrate Judge for pre-trial purposes in accordance with 28 U.S.C. § 636. Before the Court are Plaintiff's Opening Claim Construction Brief (Dkt. No. 74), Defendants' response (Dkt. No. 82), and Plaintiff's reply (Dkt. No. 86).[1] Also before the Court are the parties' Local Patent Rule ("P.R.") 4-3 Joint Claim Construction and Prehearing Statement (Dkt. No. 66) and P.R. 4-5(d) Joint Claim Construction Chart (Dkt. No. 88).

A claim construction hearing, in accordance with *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff'd*, 517 U.S. 370 (1996), was held in Tyler on September 11, 2014. After hearing the arguments of counsel and reviewing the relevant pleadings, presentation materials, other papers, and case law, the Court finds the disputed terms of the patents-in-suit should be construed as set forth herein.

[1] References to docket numbers herein are to Civil Action No. 6:13-CV-438 unless otherwise indicated.

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I. BACKGROUND

Plaintiff brings suit alleging infringement of United States Patents No. 6,947,748 ("'748 patent") and 7,454,212 ("'212 patent") (collectively, the "patents-in-suit"). Both patents-in-suit are titled "OFDMA with Adaptive Subcarrier-Cluster Configuration and Selective Loading." The '748 patent issued on September 20, 2005, and bears a filing date of December 15, 2000. The '212 patent issued on November 18, 2008, bears a filing date of August 8, 2005, and is a continuation of the '748 patent. Because the patents-in-suit share a common written description and figures, citations to the specification shall be to the '748 patent only.

In general, the patents-in-suit relate to wireless communications, such as for cellular telephones. More specifically, the patents-in-suit relate to orthogonal frequency division multiple access ("OFDMA"), in which communication frequency bandwidth is divided into smaller "subcarriers." *See* '748 patent, 1:15-18. These subcarriers are at closely-spaced frequencies but are "orthogonal," meaning that they do not substantially interfere with one another. *See id.* As Defendants further explain, "each communication device will 'listen' to only a specific set of frequencies at specific times." Dkt. No. 82 at 5. The patents-in-suit disclose systems and methods for allocating subcarriers among multiple "subscribers," such as mobile cellular telephone units.

The Abstracts of the patents-in-suit state:

> A method and apparatus for subcarrier selection for systems is described. In one embodiment, the system employs orthogonal frequency division multiple access (OFDMA). In one embodiment, a method for subcarrier selection comprises each of multiple subscribers measuring channel and interference information for subcarriers based on pilot symbols received from a base station, at least one of subscribers selecting a set of candidate subcarriers, providing feedback information on the set of candidate subcarriers to the base station, and the one subscriber receiving an indication of subcarriers of the set of subcarriers selected by the base station for use by the one subscriber.

Plaintiff asserts claims 6-9, 11, and 19-22 of the '748 patent and claims 1-4, 8-13, 15, 16, 18-21, and 23-30 of the '212 patent. Dkt. No. 74 at 1. Plaintiff submits the patents-in-suit relate to technology that is now used in the Long Term Evolution ("LTE") standard for mobile wireless communications systems, which is sometimes referred to in common parlance as "4G LTE." *See* Dkt. No. 74 at 2; Dkt. No. 82 at 5.

The Court previously construed the patents-in-suit in *Adaptix, Inc. v. AT&T Mobility LLC, et al.*, and related cases, in which the Court held a claim construction hearing on March 5, 2014. Civil Action No. 6:12-CV-17 ("*AT&T*"); *see* Civil Action Nos. 6:12-CV-20, -120. In that group of cases, the Court entered a claim construction order on March 12, 2014. *See AT&T*, Dkt. No. 180; *see also id.*, Dkt. No. 197, 5/29/2014 Order (overruling objections).

Further, Judge Paul Grewal of the Northern District of California construed various terms in the '748 patent and the '212 patent on December 19, 2013. *Adaptix, Inc. v. Motorola Mobility LLC, et al.*, No. 5:13-cv-1774, Dkt. No. 123 (N.D. Cal. Dec. 19, 2013) ("*Motorola*") (attached to Plaintiff's opening brief in the above-captioned cases as Exhibit C).

II. LEGAL PRINCIPLES

The claims of a patent define the invention to which the patentee is entitled the right to exclude. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). Claim terms are given their ordinary and customary meaning to one of ordinary skill in the art at the time of the invention, unless there is clear evidence in the patent's specification or prosecution history that the patentee intended a different meaning. *Id.* at 1312-13. Claim construction is informed by the intrinsic evidence: the patents' specifications and file histories. *Id.* at 1315-17. Courts may also consider evidence such as dictionary definitions and treatises to aid in determining the ordinary and customary meaning of claim terms. *Id.* at 1322. Further, "[o]ther claims, asserted

and unasserted, can provide additional instruction because 'terms are normally used consistently throughout the patent.'" *SmartPhone Techs. LLC v. Research in Motion Corp.*, No. 6:10-CV-74-LED-JDL, 2012 WL 489112, at *2 (E.D. Tex. Feb. 13, 2012) (citing *Phillips*, 415 F.3d at 1314). "Differences among claims, such as additional limitations in dependent claims, can provide further guidance." *SmartPhone*, 2012 WL 489112, at *2.

A court should "avoid the danger of reading limitations from the specification into the claim[s]." *Phillips*, 415 F.3d at 1323. For example, "although the specification often describes very specific embodiments of the invention, [the Federal Circuit has] repeatedly warned against confining the claims to those embodiments." *Id.* The Federal Circuit has "expressly rejected the contention that if a patent describes only a single embodiment, the claims of the patent must be construed as being limited to that embodiment." *Id.* This is not only because of the requirements of Section 112 of the Patent Act, but also because "persons of ordinary skill in the art rarely would confine their definitions of terms to the exact representations depicted in the embodiments." *Id.* Limitations from the specification should only be read into the claims if the patentee "acted as his own lexicographer and imbued the claim terms with a particular meaning or disavowed or disclaimed scope of coverage, by using words or expressions of manifest exclusion or restriction." *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (citations omitted); *Thorner v. Sony Computer Entm't Am. LLC*, 669 F.3d 1362, 1367 (Fed. Cir. 2012).

Similarly, the prosecution history may not be used to infer the intentional narrowing of a claim absent the applicant's clear disavowal of claim coverage. *SuperGuide Corp. v. DirecTV Enters., Inc.*, 358 F.3d 870, 875 (Fed. Cir. 2004) (citations omitted). "To be given effect, such a disclaimer must be made with reasonable clarity and deliberateness." *Id.*

Guided by these principles of claim construction, this Court directs its attention to the patents-in-suit and the disputed claim terms.

III. CONSTRUCTION OF AGREED TERMS

The Court hereby adopts the following agreed-upon constructions:

Term	Patents / Claims	Agreed Construction
"select[ing]"	'748 patent, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"choos[ing]"
"sclect[ing] a sct of candidate subcarriers"	'748 patcnt, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"choos[ing] a sct of subcarricrs that the subscriber requests for use"
"arbitrarily order[ing/ed]"	'748 patent, claims 6, 19; '212 patent, claims 13, 28	"order[ed/ing] in an order not known by the base station"
"clusters of subcarriers"	'748 patent, claims 6, 11, 19, 21; '212 patent, claims 13, 18, 28	"at least two logical units of subcarriers"
"index indication of a candidate cluster with it[s] SINR value"	'748 patent, claims 6, 19	"identifier (ID) of a chosen candidate cluster of subcarriers accompanied by its SINR value"
"SINR value"	'748 patent, claims 6, 19	"Signal-to-Interference-plus-Noise Ratio measurement"
"SINR"	'748 patent, claims 6, 9, 19, 22; '212 patent, claim 19	"Signal-to-Interference-plus-Noise Ratio"
"subcarriers [of/from] the set of subcarriers selected by the [first] base station"	'748 patent, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"subcarriers that the base station has chosen from the set of candidate subcarriers selected by the subscriber"
"intra-cell traffic load balancing"	'748 patent, claim 11	"balancing cluster usage within a cell of a base station"

Dkt. No. 66 at Ex. A.

IV. CONSTRUCTION OF DISPUTED TERMS

Plaintiff's briefing notes several terms that are the subject of briefing on Defendants' Motion for Summary Judgment of Invalidity Based on Indefiniteness Under 35 U.S.C. § 112 (Dkt. No. 81). Specifically, those disputed terms are "each cluster," "desires to employ," "desired for use," and "indication of subcarriers." *See id.*; *see also* Dkt. No. 74 at 11. The Court addresses those terms by separate Report and Recommendation on the motion for summary judgment.

The Court therefore turns to the disputed terms submitted by the parties for construction. Plaintiff submits "[t]he disputed terms are found in claims 6, 8, 9, 11, 19, 21 and 22 of the '748 patent and claims 1, 9, 11, 13, 19, 26 and 28 of the '212 patent." Dkt. No. 74 at 6.

A. "subcarrier selection"

Plaintiff's Proposed Construction	Defendants' Proposed Construction
plain and ordinary meaning; no construction necessary	"choosing each subcarrier"

Dkt. No. 74 at 7; Dkt. No. 82 at 9. The parties submit that this disputed term appears in claims 6 and 8 of the '748 patent and claim 1 of the '212 patent. Dkt. No. 66, Ex. B at 1 & Ex. C at 1.

The parties have not presented any prior court construction of this disputed term, and the Court finds none.

(1) The Parties' Positions

Plaintiff argues "the ordinary meaning of the words adequately expresses what is covered by the claim and any attempt to further define it would only heighten the potential for jury confusion." Dkt. No. 74 at 7. Plaintiff urges that Defendants' proposal "conflicts with the ordinary meaning of selection, which can include a selection of just some items from a given set

of items." *Id.* Plaintiff further argues: "The embodiments of the patents-in-suit clearly support the selection of a subset (not each) (*See* '748 patent 3:7-34); thus, it is not necessary that 'each' subcarrier be selected, even per embodiments in the specification." *Id.*

Defendants respond that "[t]he dispute is whether these claims require a subscriber to select each subcarrier with good performance and subsequently group these 'good' subcarriers into a set of candidate subcarriers for reporting to the base station." Dkt. No. 82 at 9. Defendants argue that "under [Plaintiff's] purported construction, a subscriber can select predefined clusters of subcarriers, without regard to whether a selected cluster may include subcarriers that do not have good performance." *Id.* Defendants further submit:

> While Defendants agree with [Plaintiff] that the Asserted Patents do not require that 'every' subcarrier be selected (or chosen), the Asserted Patents explain that the process of selection involves 'choosing each subcarrier' from among the available subcarriers. If it makes the limitation clearer, Defendants have no objection to a claim construction of 'selectively choosing each subcarrier.'

Id. (footnote omitted; emphasis omitted).

Plaintiff replies that Defendants' proposal would improperly "prohibit[] a choice of less than all good subcarriers or a choice that includes some good subcarriers and some 'less than good' subcarriers." Dkt. No. 86 at 1. Plaintiff also argues Defendants' suggestion of using the word "selectively" would be nonsensical because the parties have agreed to construe "select[ing]" as "choos[ing]." *Id.* at 2.

At the September 11, 2014 hearing, Defendants submitted, as alternative proposed constructions, "choosing individual subcarriers," "selectively choosing individual subcarriers," or "choosing some or all individual subcarriers." Plaintiff reiterated that nothing in the specification requires individual selection of subcarriers. Plaintiff also argued that all of Defendants' alternative proposed constructions are awkward, confusing, and unnecessary.

(2) Analysis

Claim 6 of the '748 patent is representative and recites (emphasis added):

> 6. A method for *subcarrier selection* for a system employing orthogonal frequency division multiple access (OFDMA) comprising:
>
> a subscriber measuring channel and interference information for a plurality of subcarriers based on pilot symbols received from a base station;
>
> the subscriber selecting a set of candidate subcarriers;
>
> the subscriber providing feedback information on the set of candidate subcarriers to the base station, wherein providing feedback information comprises arbitrarily ordering the set of candidate of [*sic*] subcarriers as clusters of subcarriers, and further wherein the feedback information includes an index indication of a candidate cluster with its SINR value; and
>
> the subscriber receiving an indication of subcarriers of the set of subcarriers selected by the base station for use by the subscriber.

The specification discloses selecting "good" subcarriers:

> For downlink channels, *each subscriber* first measures the channel and interference information for all the subcarriers and then *selects multiple subcarriers with good performance* (e.g., a high signal-to-interference plus noise ratio (SINR)) and feeds back the information on these candidate subcarriers to the base station. The feedback may comprise channel and interference information (e.g., signal-to-interference-plus-noise-ratio information) on all subcarriers or just a portion of subcarriers. *In case of providing information on only a portion of the subcarriers*, a subscriber may provide a list of subcarriers ordered starting with those subcarriers which the subscriber desires to use, usually because *their performance is good or better than that of other subcarriers*.
>
> Upon receiving the information from the subscriber, *the base station further selects the subcarriers among the candidates*, utilizing additional information available at the base station, e.g., the traffic load information on each subcarrier, amount of traffic requests queued at the base station for each frequency band, whether frequency bands are overused, and/or how long a subscriber has been waiting to send information. In one embodiment, the subcarrier loading information of neighboring cells can also be exchanged between base stations. The base stations can use this information in subcarrier allocation to reduce inter-cell interference.

'748 patent, 3:7-34 (emphasis added).

On balance, Defendants have failed to demonstrate any requirement that a subscriber must "select each subcarrier with good performance and subsequently group these 'good'

subcarriers into a set of candidate subcarriers for reporting to the base station." Dkt. No. 82 at 9. Likewise, Defendants have failed to justify excluding use of "predefined clusters of subcarriers." *Id.* To the contrary, the above-quoted disclosure of "select[ing] *multiple* subcarriers with good performance" is consistent with selecting groups of subcarriers rather than necessarily individual subcarriers. *See* '748 patent, 3:9. Defendants' proposed construction is therefore hereby expressly rejected.

The parties' dispute having thus been resolved, the disputed term need not be construed any further. *See U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997) ("Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy."); *see also O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) ("[D]istrict courts are not (and should not be) required to construe every limitation present in a patent's asserted claims."); *Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) ("Unlike *O2 Micro*, where the court failed to resolve the parties' quarrel, the district court rejected Defendants' construction.").

The Court therefore hereby construes **"subcarrier selection"** to have its **plain and ordinary meaning**.

B. "pilot symbols"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
"symbols, sequences, or signals known to both the base station and subscriber"	"symbols, sequences, or signals known to both the base station and subscriber, which are transmitted by the base station on all allocable subcarriers"

Dkt. No. 74 at 7; Dkt. No. 82 at 11. The parties submit that this disputed term appears in claims 6, 8, 19, and 21 of the '748 patent and claims 1, 18, and 19 of the '212 patent. Dkt. No. 66, Ex. B at 1 & Ex. C at 5.

In *AT&T* as well as in *Motorola*, the parties agreed to substantially the same construction that Plaintiff is proposing here. Dkt. No. 74 at 8; *see AT&T*, Dkt. No. 180 at 6 ("symbols, sequences, or signals known to both base station and subscriber"); *see also Motorola*, Dkt. No. 105, 10/8/2013 Joint Claim Construction and Prehearing Statement Pursuant to Patent L.R. 4-3 at 2 (same).

(1) The Parties' Positions

Plaintiff argues "Defendants' construction attempts to limit the scope of the claim to an embodiment of the patents-in-suit" despite the absence of any "clear indication in the intrinsic record that the patentee intended the claims to be so limited." Dkt. No. 74 at 8. Plaintiff also argues claim 6 of the '212 patent "recites a more limited type of pilot symbol when intended." *Id.*

Defendants respond that "merely because others have agreed with [Plaintiff] on a construction is no basis for this Court to not determine an appropriate construction here." Dkt. No. 82 at 11. Defendants argue the disputed term does not have a settled meaning in the art and that "every description of 'pilot symbol'" in the specification confirms that "each pilot symbol" "covers the entire OFDM frequency bandwidth." *Id.* at 12-13 (citing '748 patent, 5:26-36, 7:31-32, 7:33-35, 7:67-8:2, 8:8-11 & 9:6-9). Finally, Defendants argue that although Plaintiff has cited claim 6 of the '212 patent, the doctrine of claim differentiation is inapplicable because "claim 6 differs in scope from Defendants' proposed construction" and, moreover, claim differentiation cannot override how the disputed term is used in the specification. *Id.* at 14.

Plaintiff replies by reiterating its opening arguments and by urging that "contrary to Defendants' argument, the specification does not disclose just one embodiment of the invention wherein the pilot signals are 'on all allocable subcarriers' or covering 'the entire OFDM frequency bandwidth.'" Dkt. No. 86 at 4. Plaintiff also argues claim differentiation as to claim 17 of the '748 patent. *Id.* at 5.

At the September 11, 2014 hearing, Defendants reiterated the multiple disclosures, in the specification, of pilot symbols that cover the entire OFDMA frequency bandwidth. In addition to the case law cited in Defendants' responsive claim construction brief, Defendants cited additional case law such as *Irdeto Access, Inc. v. Echostar Satellite Corp.*, 383 F.3d 1295, 1300-01 (Fed. Cir. 2004) (finding that "the specification *consistently* uses the term 'group' to refer to a subset of all subscribers") (emphasis added).

(2) Analysis

Claim 1 of the '212 patent is representative and recites (emphasis added):

> 1. A method for subcarrier selection for a system employing orthogonal frequency division multiple access (OFDMA) comprising:
> a subscriber unit measuring channel and interference information for a plurality of subcarriers based on *pilot symbols* received from a base station;
> the subscriber unit selecting a set of candidate subcarriers;
> the subscriber unit providing feedback information on the set of candidate subcarriers to the base station;
> the subscriber unit receiving an indication of subcarriers of the set of subcarriers selected by the base station for use by the subscriber unit; and
> the subscriber unit submitting updated feedback information, after being allocated the set of subcarriers to be allocated an updated set of subcarriers, and thereafter the subscriber unit receiving another indication of the updated set of subcarriers.

Plaintiff has argued claim differentiation as to claim 6 of the '212 patent, which depends from claim 1 and which recites:

> 6. The method defined in claim 1 wherein the pilot symbols occupy an entire OFDM frequency bandwidth.

Likewise, claim 17 of the '748 patent depends from claim 14, and those claims recite (emphasis added):

> 14. An apparatus comprising:
>
> a plurality of subscribers in a first cell to generate feedback information indicating clusters of subcarriers desired for use by the plurality of subscribers; and
>
> a first base station in the first cell, the first base station to allocate OFDMA subcarriers in clusters to the plurality of subscribers;
>
> each of a plurality of subscribers to measure channel and interference information for the plurality of subcarriers based on *pilot symbols* received from the first base station, wherein at least one subscriber of the plurality of subscribers select a set of candidate subcarriers from the plurality of subcarriers based, at least in part, on SINR of the cluster and a difference between measured power corresponding to each cluster during pilot periods and measured power during data periods, and the one subscriber to provide feedback information on the set of candidate subcarriers to the base station and to receive an indication of subcarriers from the set of subcarriers selected by the first base station for use by the one subscriber.
>
> * * *
>
> 17. The apparatus defined in claim 14 wherein the pilot symbols occupy an entire OFDM frequency bandwidth.

The doctrine of claim differentiation thus weighs against Defendants' proposed construction. *See, e.g., Nazomi Commc'ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1370 (Fed. Cir. 2005) ("The concept of claim differentiation normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend.") (citations and internal quotation marks omitted).

Defendants nonetheless highlight that the specification discloses "full-bandwidth" pilot symbols:

> Referring to FIG. 1B, each base station periodically broadcasts pilot OFDM symbols to every subscriber within its cell (or sector) (processing block 101). The pilot symbols, often referred to as a sounding sequence or signal, are known to both the base station and the subscribers. *In one embodiment, each pilot symbol covers the entire OFDM frequency bandwidth.* The pilot symbols may be

> different for different cells (or sectors). The pilot symbols can serve multiple purposes: time and frequency synchronization, channel estimation and signal-to-interference/noise (SINR) ratio measurement for cluster allocation.

'748 patent, 5:26-36 (emphasis added).[2]

> *In one embodiment*, each base station transmits pilot symbols simultaneously, and *each pilot symbol occupies the entire OFDM frequency bandwidth*, as shown in FIGS. 2A-C. Referring to FIG. 2A-C, pilot symbols 201 are shown traversing the entire OFDM frequency bandwidth for cells A, B and C, respectively.

Id. at 7:31-35 (emphasis added).

> Pilot symbols serve an additional purpose in determining interference among the cells. Since the pilots of multiple cells are broadcast at the same time, they will interfere with each other (because they *occupy the entire frequency band*). This collision of pilot symbols may be used to determine the amount of interference as a worst case scenario. Therefore, in one embodiment, the above SINR estimation using this method is conservative in that the measured interference level is the worst-case scenario, assuming that all the interference sources are on. Thus, *the structure of pilot symbols is such that it occupies the entire frequency band* and causes collisions among different cells for use in detecting the worst case SINR in packet transmission systems.

Id. at 7:66-8:11 (emphasis added).

> The channel/interference estimation by processing block 301 is well-known in the art by monitoring the interference that is generated due to *full-bandwidth pilot symbols* being simultaneously broadcast in multiple cells.

Id. at 9:6-9 (emphasis added).

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[2] This disclosure of "time and frequency synchronization" as a potential purpose of pilot symbols is quoted (but not discussed) in Defendants' response brief. Dkt. No. 82 at 12. At the September 11, 2014 hearing, upon inquiry regarding whether this disclosure weighs for or against requiring pilot symbols to cover all allocable subcarriers, Defendants requested permission to file a supplemental brief. Plaintiff responded that this disclosure is further evidence weighing against requiring full-bandwidth pilot symbols. The Court granted Defendants' request and stated that both sides could file a supplemental brief regarding this disclosure, if desired, no later than September 16, 2014. Defendants filed a supplemental letter brief (Dkt. No. 96-1). In particular, Defendants argue that the relevant disclosure "explains that pilot symbols *which cover the entire OFDM frequency bandwidth* can be used for a number of purposes, including e.g., time and frequency synchronization." Dkt. No. 96-1 at p. 2 of 83 (emphasis in original). Defendants also submit that "[s]ynchronization of *all* subcarriers ensures that all subcarriers remain orthogonal." *Id.* at p. 3 of 83 (emphasis added).

On one hand, "claims must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315 (citation and internal quotation marks omitted); *see Netword, LLC v. Centraal Corp.*, 242 F.3d 1347, 1352 (Fed. Cir. 2001) ("Although the specification need not present every embodiment or permutation of the invention and the claims are not limited to the preferred embodiment of the invention, neither do the claims enlarge what is patented beyond what the inventor has described as the invention."); *see also Retractable Techs., Inc. v. Becton, Dickinson & Co.*, 653 F.3d 1296, 1305 (Fed. Cir. 2011) ("In reviewing the intrinsic record to construe the claims, we strive to capture the scope of the actual invention, rather than strictly limit the scope of claims to disclosed embodiments or allow the claim language to become divorced from what the specification conveys is the invention."); *VirnetX, Inc. v. Cisco Sys., Inc.*, No. 2013-1489, --- F.3d ----, 2014 WL 4548722, at *4-*5 (Fed. Cir. Sept. 16, 2014) (noting that the patentee "has not identified even a single embodiment that provides data security but not anonymity" and that "[t]hc fact that anonymity is rcpcatcdly and consistcntly uscd to characterize the invention strongly suggests that it should be read as part of the claim") (citation and internal quotation marks omitted).

On the other hand, "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'" *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) (quoting *Teleflex, Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1327 (Fed. Cir. 2002)); *see Electro Med Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994) ("[P]articular embodiments appearing in a specification will not be read into the claims when the claim language is broader than such embodiments.").

Further, the disclosure of "full-bandwidth pilot symbols" weighs in favor of finding that the term "pilot symbols," by itself, does not include the limitation "full-bandwidth." '748 patent, 9:6-9 (emphasis added); *see Phillips*, 415 F.3d at 1314 ("[T]he claim in this case refers to 'steel baffles,' which strongly implies that the term 'baffles' does not inherently mean objects made of steel.").

On balance, particularly in light of claim differentiation, discussed above, Defendants' proposed construction would improperly import a particular feature from a preferred embodiment into the claims. *See Liebel-Flarsheim*, 358 F.3d at 906. Defendants' proposed construction is therefore hereby expressly rejected.

The Court accordingly hereby construes **"pilot symbols"** to mean **"symbols, sequences, or signals known to both the base station and subscriber."**

C. "[arbitrarily ordering the / arbitrarily ordered] set of candidate subcarriers as clusters of subcarriers"

Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
No construction needed; as to "arbitrarily ordering/ordered": "based on or determined by individual preference or convenience"	"order[ed/ing] in an order not known by the base station [the] set of candidate subcarriers into clusters of subcarriers by the subscriber"

Dkt. No. 74 at 8; Dkt. No. 82 at 14. The parties submitted that these terms appear in claims 6 and 19 of the '748 patent and claims 13 and 28 of the '212 patent. Dkt. No. 66, Ex. B at 1-2 & Ex. C at 8.

At the September 11, 2014 hearing, the parties submitted that Plaintiff no longer asserts the claims in which these terms appear and, as a result, these terms are no longer being presented for construction. The Court therefore does not address these terms.

D. "a system employing orthogonal frequency division multiple access (OFDMA)," "subcarrier allocation for OFDMA," and "OFDMA subcarriers"

"a system employing orthogonal frequency division multiple access (OFDMA)"	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
as to "OFDMA": orthogonal frequency division multiple access; otherwise, no construction necessary; plain and ordinary meaning	"a system using orthogonal frequency division multiple access (OFDMA) for downlink and uplink communications"
"subcarrier allocation for OFDMA"	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
as to "OFDMA": orthogonal frequency division multiple access; otherwise, no construction necessary; plain and ordinary meaning	"OFDMA subcarrier allocation for downlink and uplink communications"
"OFDMA subcarriers"	
Plaintiff's Proposed Construction	**Defendants' Proposed Construction**
as to "OFDMA": orthogonal frequency division multiple access; otherwise, no construction necessary; plain and ordinary meaning	"OFDMA subcarriers for downlink and uplink communications"

Dkt. No. 74 at 10; Dkt. No. 82 at 16. The parties assert the first of these disputed terms appears in claims 6 and 8 of the '748 patent and claim 1 of the '212 patent. Dkt. No. 66, Ex. B at 1 & Ex. C at 3. The parties submit the second of these disputed terms appears in claim 11 of the '748 patent. *Id.*, Ex. B at 2 & Ex. C at 11. The parties submit the third of these disputed terms appears in claims 11, 19, and 21 of the '748 patent and claim 18 of the '212 patent. *Id.*, Ex. B at 3 & Ex. C at 13.

Motorola construed "OFDMA" to mean "orthogonal frequency division multiple access," which does not appear to be in dispute, here or in *Motorola*. *See Motorola*, Dkt. No. 123 at 2. *Motorola* otherwise construed these disputed terms to have their plain and ordinary meaning. *Id.* In *AT&T*, the Court reached the same conclusion. *See AT&T*, Dkt. No. 180 at 23-29.

(1) The Parties' Positions

Plaintiff argues: "Defendants[] propose the same construction for these terms that was previously rejected [in *AT&T*]. Accordingly, this Court's construction of these terms should be maintained." Dkt. No. 74 at 10.

Defendants respond that they "propose a construction for these three terms to clarify that the asserted claims each require OFDMA for both the downlink (base station to subscriber) and the uplink (subscriber to base station) communications that occur within the system." Dkt. No. 82 at 16. Defendants cite claim language that requires "providing" feedback information to a base station and "receiving" an indication of subcarriers selected by the base station, and Defendants urge that "nothing in the claim language indicates that the claims cover using a non-OFDMA multiple access system or apparatus for uplink communications." *Id.* at 17.

As to the Court's prior construction rejecting these arguments, Defendants argue the Court's reliance on the *Ventana* case was improper because "Defendants are not attempting to read an additional limitation into the claims. Rather, Defendants seek a correct interpretation of what is a 'system employing . . . OFDMA' and what is an 'apparatus . . . to allocate OFDMA subcarriers,' which are words in the claims." Dkt. No. 82 at 19-20 (discussing *Ventana Med. Sys., Inc. v. Biogenex Labs., Inc.*, 473 F.3d 1173 (Fed. Cir. 2006)). Defendants argue the *St. Clair* case is more analogous. Dkt. No. 82 at 20 (discussing *St. Clair Intellectual Prop. Consultants, Inc. v. Canon Inc.*, 412 F. App'x 270, 273 (Fed. Cir. 2011)).

Defendants conclude that "here the claim language and the specification indicate that each claim, as a whole, is directed to a system and/or apparatus using OFDMA for *all* essential aspects of the communications, not simply for *any* random aspect of the communications. . . . [B]ecause both downlink and uplink communications are essential aspects of the communication system, nothing is being read into the claims." Dkt. No. 82 at 20.

Plaintiff replies by reiterating that in *AT&T*, the Court rejected the same arguments that Defendants are presenting here. Dkt. No. 86 at 7.

At the September 11, 2014 hearing, Defendants emphasized that claim 8 of the '748 patent recites an OFDMA system that includes components for providing feedback (which involves an uplink) and receiving an indication (which involves a downlink). Defendants argued that the Court should resolve whether the claimed system requires that *all* components use OFDMA or, instead, only *some* components use OFDMA. Defendants also cited *American Radio LLC v. Qualcomm Inc.*, Nos. 2013-1641, -1642, -1643, -1644, 2014 WL 4115868, at *3 (Fed. Cir. Aug. 22, 2014) (finding that "the written description of the [patent-in-suit] *consistently* uses the analog signal limitations to refer to the analog signal at the carrier frequency") (emphasis added).

Plaintiff responded that claim 8 of the '748 patent does not recite an OFDMA system but rather recites a "method" for use in a "system *employing*" OFDMA. Plaintiff also argued that the claims should not be limited by specific underlying details disclosed in the specification.

(2) Analysis

The *St. Clair* case cited here by Defendants reversed a district court claim construction, finding: "In light of the claim language and the *ubiquitous and consistent* correspondence between data formats and computer architectures throughout the specification and prosecution

history, we hold that the term 'computer apparatus' refers to computer architecture." 412 F. App'x at 273 (emphasis added). *St. Clair* also noted, for example, that "the problem the inventors sought to solve was one of computer architecture incompatibility, not data format incompatibility." *Id.*

Defendants' argument thus follows the *Nystrom* line of cases. *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1144-45 (Fed. Cir. 2005) (construing the term "board" to mean "wood cut from a log" in light of the patentee's *consistent* usage of the term; noting that the patentee "is not entitled to a claim construction divorced from the context of the written description and prosecution history") (emphasis added); *see, e.g., Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d 1324, 1333 (Fed. Cir. 2011) ("[T]he *consistent* reference throughout the specification to the 'eccentric weight portion' as structure extending from the face of the gear makes it apparent that it relates to the invention as a whole, not just the preferred embodiment.") (emphasis added).

On balance, the disclosures in the specification are not so clear as to warrant applying *St. Clair*, *Nystrom*, or similar cases. Indeed, in *AT&T* the Court considered the relevant portions of the specification, such as Figure 13 and related disclosures, which Defendants have cited here. *See AT&T*, Dkt. No. 180 at 23-29.

The Court thus reaches the same conclusion here as in *AT&T* and for the same reasons. *See id.* Specifically, "the claims require only that OFDMA must be used, not that it must be used for both downlink and uplink communications. Defendants' proposed constructions are therefore hereby expressly rejected." *Id.* at 28; *see Ventana*, 473 F.3d at 1181 ("[E]ach claim does not necessarily cover every feature disclosed in the specification. When the claim addresses only some of the features disclosed in the specification, it is improper to limit the claim to other, unclaimed features."); *see also Phillips*, 415 F.3d at 1323 ("[T]he line between construing terms

and importing limitations can be discerned with reasonable certainty and predictability if the court's focus remains on understanding how a person of ordinary skill in the art would understand the claim terms. For instance, although the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments.").

The parties' dispute having thus been resolved, the disputed terms need not be construed any further. *See U.S. Surgical*, 103 F.3d at 1568; *see also O2 Micro*, 521 F.3d at 1362; *Finjan*, 626 F.3d at 1207.

The Court accordingly hereby construes **"a system employing orthogonal frequency division multiple access (OFDMA)," "subcarrier allocation for OFDMA,"** and **"OFDMA subcarriers"** to have their **plain and ordinary meaning**.

V. CONCLUSION

The Court hereby orders the claim terms addressed herein construed as indicated. Summary charts are attached below as Exhibit A (agreed terms) and Exhibit B (disputed terms).

The parties are further ordered that they may not refer, directly or indirectly, to each other's claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual constructions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the constructions adopted by the Court.

SIGNED this 19th day of September, 2014.

CAROLINE M. CRAVEN
UNITED STATES MAGISTRATE JUDGE

EXHIBIT A

Agreed Claim Term	Patent / Claims	Construction
"select[ing]"	'748 patent, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"choos[ing]"
"select[ing] a set of candidate subcarriers"	'748 patent, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"choos[ing] a set of subcarriers that the subscriber requests for use"
"arbitrarily order[ing/ed]"	'748 patent, claims 6, 19; '212 patent, claims 13, 28	"order[ed/ing] in an order not known by the base station"
"clusters of subcarriers"	'748 patent, claims 6, 11, 19, 21; '212 patent, claims 13, 18, 28	"at least two logical units of subcarriers"
"index indication of a candidate cluster with it[s] SINR value"	'748 patent, claims 6, 19	"identifier (ID) of a chosen candidate cluster of subcarriers accompanied by its SINR value"
"SINR value"	'748 patent, claims 6, 19	"Signal-to-Interference-plus-Noise Ratio measurement"
"SINR"	'748 patent, claims 6, 9, 19, 22; '212 patent, claim 19	"Signal-to-Interference-plus-Noise Ratio"
"subcarriers [of/from] the set of subcarriers selected by the [first] base station"	'748 patent, claims 6, 8, 19, 21; '212 patent, claims 1, 18	"subcarriers that the base station has chosen from the set of candidate subcarriers selected by the subscriber"
"intra-cell traffic load balancing"	'748 patent, claim 11	"balancing cluster usage within a cell of a base station"

EXHIBIT B

Disputed Claim Term	Court's Construction
"subcarrier selection"	**Plain and ordinary meaning**
"pilot symbols"	**"symbols, sequences, or signals known to both the base station and subscriber"**
"a system employing orthogonal frequency division multiple access (OFDMA)" **"subcarrier allocation for OFDMA"** **"OFDMA subcarriers"**	**Plain meaning**