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14 **UNITED STATES DISTRICT COURT**
15 **SOUTHERN DISTRICT OF CALIFORNIA**
16

17 VIASAT, INC., VIASAT
COMMUNICATIONS, INC., f/k/a
18 WILDBLUE COMMUNICATIONS,
INC.,

19 Plaintiffs,

20 vs.

21 SPACE SYSTEMS/LORAL, INC.,
LORAL SPACE &
COMMUNICATIONS INC.,

22 Defendants/Counterclaim
Plaintiffs.
23
24

Case No. 3:12-cv-00260-H-WVG

Hon. Marilyn L. Huff

**DEFENDANTS' MOTION FOR
JUDGMENT AS A MATTER OF
LAW OF INDEFINITENESS**

Date: April 9, 2014

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Place: Courtroom 15A

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I. INTRODUCTION

Defendants Space Systems, Loral, LLC and Loral Space & Communications, Inc. (collectively, "SS/L") move for judgment as a matter of law that the asserted claims of U.S. Patent No. 8,068,827 (the "'827") and U.S. Patent No. 8,010,043 (the "'043") are invalid as indefinite. Because indefiniteness is a pure question of law, and because the asserted claims of the '043 and '827 patents are insolubly ambiguous, judgment as a matter of law is appropriate.

II. LEGAL FRAMEWORK

Under 35 U.S.C. § 112, ¶ 2, the claims of a patent must "particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112(2). "A claim is considered indefinite if it does not reasonably apprise those skilled in the art of its scope." *Microprocessor Enhancement Corp. v. Tex. Instruments Inc.*, 520 F.3d 1367 (Fed. Cir. 2008) (quoting *IPXL Holdings, L.L.C v. Amazon.com, Inc.*, 430 F.3d 1377, 1383-84 (Fed. Cir. 2005)). Indefiniteness is a question of law. *Microprocessor Enhancement Corp.*, 520 F.3d at 1374.

A. The '043 Patent is Indefinite.

A claim that recites both an apparatus and use of that apparatus is invalid as indefinite pursuant to 35 U.S.C. § 112, ¶ 2. When a patent claim combines "two separate statutory classes of invention"—apparatus and method claims—"a manufacturer or seller of the claimed apparatus would not know from the claim whether it might also be liable for contributory infringement because a buyer or user of the apparatus later performs the claimed method of using the apparatus." *IPXL Holdings*, 430 F.3d at 1384 (Fed. Cir. 2005). Such a claim therefore "is not

1 sufficiently precise to provide competitors with an accurate determination of the
2 'metes and bounds' of protection involved and is 'ambiguous and properly rejected'
3 under section , paragraph 2." *Id.* (quotation marks and citation omitted).

4 Claim 1 of the '043 Patent is an apparatus claim that expressly covers "a
5 satellite." But, in addition to describing components of the claimed satellite such as
6 an antenna and a power source, claim 1 further recites (1) the "reception of signals
7 from the first spot beam by the at least one of the first plurality of subscriber
8 terminals" and (2) that "the satellite is operated to maximize data-carrying capacity
9 of the plurality of spot beams ..." '043 Patent, claim 1. Both of these limitations
10 claim the use of the satellite. Because claim 1 recites a satellite and use of that
11 satellite, claim 1 is invalid as indefinite. *See* Bageant Decl. Ex. A at 202. And since
12 claims 3, 5 and 6 depend from claim 1, they therefore incorporate all of the
13 defective limitations from claim 1 and are also invalid for the same reasons. Claim
14 7 includes the same "reception of signals" limitation and therefore claim 7 and its
15 dependent claim 8 are also invalid as mixed method/apparatus claims.

16 1. Claim 1 is Invalid as Indefinite Because it is an Apparatus Claim
17 that Recites Use of the Claimed Apparatus.

18 Claim 1 of the '043 Patent is an apparatus claim drawn to a satellite¹ and
19 explicitly recites three components of the satellite: a power source, an antenna and a
20 plurality of spot beams.² Various details of the spot beams are also recited,

21 ¹ Claim 1 recites a satellite but not a satellite system, which could be interpreted to
22 include the satellite and various ground equipment associated with the satellite. V-
23 1289. The inventors knew how to distinguish between the two, insofar as Claim 9
24 expressly claims a "satellite communications system" and contains limitations
focusing on both the satellite and its associated subscriber terminals. *Id.*

² Arguably, Claim 1 only recites two structures, a power source and an antenna, as

1 including "the plurality of spot beams includes ... the first spot beam illuminates a
2 first region . . . the second spot beam illuminates a second region . . . the first and
3 second regions overlap ... the first spot beam as sent . . . the first spot beam as . . ."
4 V-1289.

5 Claim 1 subsequently describes the use of the satellite, including how the
6 claimed satellite is operated and details about subscriber terminals' reception of a
7 spot beam. For example, claim 1 recites that "the satellite is operated to maximize
8 data-carrying capacity of the plurality of spot beams as measured in bits/Hz, by
9 utilizing a beam pattern having a specific number of color(s) of frequency and
10 polarization and specific beam spacing that results in higher data-carrying capacity
11 of the plurality of spot beams than achieved with other alternative numbers of
12 color(s) of frequency and polarization and beam spacings." V-1289 (emphasis
13 added). The phrase "the satellite is operated" unambiguously requires the satellite to
14 be used.

15 Claim 1 also recites "whereby reception of signals from the first spot beam
16 by the at least one of the first plurality of subscriber terminals is interference-
17 dominated such that C/I is less than C/N." '043 Patent, claim 1 (emphasis added).
18 V-1289. Once again, this language clearly recites limitations about how the first
19 spot beam is received (reception) by a user (subscriber terminal).

20 _____
21 (... cont'd)

22 "The term spot beam refers to a directional radiation pattern provided by a satellite
23 antenna in which the area of the geographical coverage is constrained to a footprint
24 having a direct line of sight to the satellite." '043 Patent, 1:40-44. *See also* Claim
Construction Order, Dkt. 206, at 10 ("[T]he Court construes 'spot beam' as 'a
focusing of electromagnetic radiation to permit communication with terminals in a
geographical region that is a portion of the satellite's coverage area.'").

1 The recitation in claim 1 of how the claimed satellite is operated and details
2 about users' reception of a spot beam both fit within the Federal Circuit rule from
3 *IPXL Holdings* that reciting both an apparatus and a method of using the apparatus
4 renders a claim indefinite under 35 U.S.C. § 112, ¶ 2. 430 F.3d at 1384.³ In *IPXL*
5 *Holdings*, claim 25 recited:

6 The system of claim 2 [including an input means] wherein
7 the predicted transaction information comprises both a
8 transaction type and transaction parameters associated
9 with that transaction type, and the user uses the input
10 means to either change the predicted transaction
11 information or accept the displayed transaction type and
12 transaction parameters.

13 *Id.* (emphasis and parentheses in original). The Court concluded that because
14 claim 25 recited a system and a method for using that system, "it is unclear whether
15 infringement of claim 25 occurs when one creates a system that allows the user to
16 change the predicted transaction information . . . or whether infringement occurs
17 when the user actually uses the input means to change transaction information"
18 *Id.* Thus, the Court held that "[b]ecause claim 25 recites both a system and the
19 method for using that system, it does not apprise a person of ordinary skill in the art
20 of its scope, and it is invalid under section 112, paragraph 2." *Id.*

21 Similarly, in *Rembrandt Data Techs., LP v. AOL, LLC*, 641 F.3d 1331, 1339-
22 1340 (Fed. Cir. 2011), the challenged claim 3 recited "[a] data transmitting device
23 ... comprising ... first buffer means ... fractional encoding means ... second buffer
24

25 ³ Apparatus claims are not necessarily indefinite merely for using functional
26 language. *Microprocessor Enhancement Corp.*, 520 F.3d at 1375. Notwithstanding
27 any permissible instances, however, the use of functional language may still fail to
28 provide the precision required by the law. *Id.* The *IPXL Holdings* case provides an
29 example of when functional language renders a claim indefinite.

1 means ... trellis encoding means ... and transmitting the trellis encoded frames."
2 (emphasis added). The Federal Circuit explained that the first four elements of the
3 claim recited apparatus elements and the final element recited method of use
4 limitations. *Id.* at 1339 (discussing the limitation "transmitting the trellis encoded
5 frames"). "[R]eciting both an apparatus and a method of using the apparatus renders
6 a claim indefinite under section 112, paragraph 2. Applying this doctrine, the
7 district court correctly held claims 3 and its dependent claims 4 through 11 invalid
8 for indefiniteness." *Id.* at 1339 (citing *IPXL Holdings, L.L.C.*, 430 F.3d at 1384.
9 Notably, the method of use limitations in claim 3 did not explicitly recite a user or
10 require an action by a user. *Id.* Nonetheless, the Federal Circuit concluded that
11 claim 3 was indefinite because the "transmitting" element is clearly a method. *Id.*

12 Claim 1 of the '043 Patent suffers from the same problems identified in *IPXL*
13 *Holdings* and *Rembrandt Data Technologies* by reciting:

14 (1) "the satellite is operated to maximize data-carrying
15 capacity of the plurality of spot beams ..."; and

16 (2) "reception of signals from the first spot beam by the
17 at least one of the first plurality of subscriber terminals is
interference-dominated such that C/I is less than C/N."

18 V-1289 (emphasis added). The language "reception of signals from the first spot
19 beam by the at least one of the first plurality of subscriber terminals," describes an
20 action by a user or subscriber terminal to use the spot beam, just like the limitation
21 "user uses the input means" in *IPXL Holdings*. In addition, the language "the
22 satellite is operated to maximize," clearly describes a method step like the
23 "transmitting" limitation in *Rembrandt Data Technologies*, regardless of whether
24 the user or operator is expressly mentioned. Under the Federal Circuit's reasoning,

1 it is unclear whether infringement of Claim 1 of the '043 Patent occurs when one
2 creates a satellite, when one operates the satellite, or when a user receives signals
3 from the satellite.

4 2. The Problematic Language in Claim 1 Describes a Method of
5 Use and is Not "Functional Language."

6 Claim 1 does not merely describe the claimed structure in functional
7 language. *Compare Microprocessor Enhancement Corp.*, 520 F.3d 1367 at 1374.
8 That argument must fail in light of the Federal Circuit's holding in *Rembrandt Data*
9 *Technologies*. In that case, the Court invalidated a claim as indefinite because it
10 claimed a "data transmitting device for transmitting signals," but then recited
11 "transmitting the trellis encoded frames." *Rembrandt Data Techs.*, 641 F.3d at
12 1339. Although the recited action of "transmitting" was therefore performed by the
13 claimed transmitting device, the Federal Circuit nonetheless invalidated the claim
14 under the *IPXL Holdings* rule -- thereby declining to conclude that the
15 "transmitting" limitation was merely "functional language" describing the claimed
16 apparatus.

17 Here, the reasons for invalidating Claim 1 are even stronger than they were in
18 *Rembrandt*, as the "reception of signals" in Claim 1 of the '043 Patent cannot
19 possibly be performed by the claimed satellite, as the satellite cannot receive its
20 own signals. Instead, claim 1 makes clear that the "reception of signals" is
21 performed not by the satellite but "by the at least one of the first plurality of
22 subscriber terminals" Thus, even putting aside whether the "is operated to
23 maximize" clause is actually functional, the "reception of signals" limitation cannot
24 be describing the functionality of the satellite, but rather must be claiming methods

1 performed by the unclaimed subscriber terminals.⁴ *See* Bageant Decl. Ex. A at 202.
2 This mixes methods and an apparatus and thus renders the claim invalid.

3 3. Claim 3 of the '043 Patent is Invalid as Indefinite Because it
4 Incorporates Claim 1.

5 Claim 3 is dependent on claim 1 and therefore incorporates all of the
6 limitations of claim 1. To the extent claim 1 is held invalid as indefinite because of
7 the "satellite is operated" and "reception of signals" limitations, it necessarily
8 follows that claim 3 is invalid as well. *See, e.g., Rembrandt Data Techs.*, 641 F.3d
9 at 1339-40 (invalidating dependent claims 4-11 because independent claim 3 was
10 indefinite).

11 4. Claims 7 and 8 of the '043 Patent are Invalid as Indefinite.

12 Like claim 1, claim 7 also recites the "reception of signals from the first spot
13 beam by the at least one of the first plurality of subscriber terminals" V-1289.
14 Once again, this limitation describes an action by a user or subscriber terminal to
15 use the spot beam, just like the limitation "user uses the input means" in *IPXL*
16 *Holdings*. This "reception of signals" cannot possibly be performed by the satellite,
17 as discussed above. Therefore, claim 7 recites a satellite and use of the satellite,
18 which renders claim 7 invalid as indefinite for the same reasons as described above
19 with respect to claim 1. And, because claim 8 depends on claim 7, claim 8 is also
20 invalid as being indefinite.

21 **B. The '827 Patent is Indefinite.**

22 The asserted claims of the '827 patent (V-1290) also are invalid as indefinite.
23 ViaSat has maintained two '827 claims against SS/L (claims 7 and 8), but they

24 ⁴ Again, the inventors of the '043 could have, but did not, claim a "satellite communication system" (the satellite and its ground equipment) in claim 1. V-1289.

1 contain unsolubly ambiguous drafting problems:

2 First, claim 7 purports to cover circuitry that feeds to a
3 satellite's transmitter instructions either (1) to transmit in
4 only the geostationary ("GSO") frequency band, or (2) to
5 transmit in both the GSO and nongeostationary ("NGSO")
6 frequency bands. But the claim is drafted nonsensically,
because the transmitter then ignores these instructions and
either transmits only in the GSO band or only in the
NGSO band.

7 Second, the satellite in claim 7 makes transmission
8 determinations based on "information indicating a
9 presence or an absence of an interference situation." But,
10 as ViaSat would read the claim, this "information" could
consist of simply the subjective opinions of a technician
on the ground. A claim whose infringement turns on the
subjective whims of a third-party is invalid as indefinite.

11 Third, claim 8 describes a "low-noise amplifier operative
12 to amplify the transmitted signals and output an amplified
13 signal," along with a "frequency mixer having a first input
14 adapted to receive the amplified signal." These limitations
15 are nonsensical, because "transmitted" signals are signals
16 in the downlink frequency spectrum that leave the satellite
via the transmitter. A satellite cannot internally amplify
signals that have already been transmitted, much less pass
them on to a frequency mixer. Moreover, a low-noise
amplifier operates on signals in the uplink frequency
spectrum, not the downlink frequency spectrum.

17 The '827 is a mess that cannot be put back together, and this Court should therefore
18 hold its asserted claims to be invalid as indefinite.

19 1. The "Transmitter" Limitation of Claim 7 is Indefinite.

20 Claim 7 of the '827 patent essentially describes a three-component satellite.
21 The first component is identified in the first limitation of claim 7, which provides
22 for a "receiver." V-1290. This receiver receives two different types of signals from
23 the ground: "[1] in a GSO frequency band and [2] in an extended frequency
24 spectrum, the extended frequency spectrum including the GSO frequency band and

1 a non-geostationary orbit (NGSO) frequency band." V-1290 (numbering added for
2 clarity).

3 The second component of this satellite, corresponding to the second
4 limitation of the claim, is its onboard "circuitry." V-1290. This circuitry selects an
5 "activated frequency mode . . . based on information indicating a presence or an
6 absence of an interference situation with an NGSO satellite system." V-1290. There
7 are two options for this activated frequency mode: "one of [1] a GSO frequency
8 band mode and [2] an extended frequency spectrum mode." *Id.* (emphasis and
9 numbering added for clarity). The "extended frequency spectrum mode" in this
10 limitation refers back to the "extended frequency spectrum" in the first limitation,
11 which was defined to include both GSO and NGSO. So the two "activated
12 frequency modes" here are either (1) GSO-only mode or (2) GSO+NGSO mode.

13 The third component of the claimed GSO satellite system – and the third
14 limitation of Claim 7 – is a "transmitter." This "transmitter" changes its
15 transmission characteristics based upon "the activated frequency spectrum mode."
16 V-1290. Accordingly, the input to the transmitter is one of the two "activated
17 frequency spectrum modes" – either (1) the GSO-only mode, or (2) the
18 GSO+NGSO mode. But this is not the output of the transmitter. Rather, claim 7
19 dictates that the transmitter will transmit "in one of [1] the GSO frequency band and
20 [2] in the NGSO frequency spectrum." V-1290 (emphasis and numbering added for
21 clarity). The claimed GSO satellite therefore does not actually transmit in a
22 combined GSO+NGSO mode. Instead, it picks "one of" the GSO frequency band
23 and the NGSO frequency spectrum.

24 The transmitter limitation in claim 7 is thus nonsensical and, accordingly,

1 indefinite. *Halliburton Energy Services, Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed.
2 Cir. 2008). Here, the claim describes a satellite that determines whether it should
3 transmit in either a GSO mode or in a GSO+NGSO mode, but, after having made
4 that choice, the satellite then transmits either in GSO-only or in NGSO-only. One
5 of skill in the art could not understand what was intended by this claim, insofar as it
6 requires the satellite to make a transmission determination that the satellite then
7 explicitly does not follow. Claim 7 is therefore insolubly ambiguous and indefinite.

8 One option ViaSat could have pursued to preserve the validity of Claim 7
9 would have been to ask this Court to construe Claim 7 in such a way as to make it
10 coherent. But ViaSat did not do so. In any event, even if ViaSat had asked for a
11 corrective construction of the "transmitter" limitation, this Court should have
12 rejected such a fix. This is not a situation where there was a scrivener's error or a
13 PTO misprint. *Cf. TransAmerica Life Ins. Co. v. Lincoln Nat. Life Ins. Co.*, 550 F.
14 Supp. 2d 865, 975-76 (N.D. Iowa Mar. 10, 2008) (changing a scrivener's erroneous
15 "plus sign" to a "minus sign"). The phrase "in one of the GSO frequency band and
16 in the NGSO frequency spectrum" appeared in the original claim 7 that ViaSat
17 submitted to the PTO. The language is plain and simple, and ViaSat has never
18 argued the inventors did not intend it.

19 Accordingly, claim 7 falls squarely within the Federal Circuit rule that courts
20 are not to redraft plain, but nonsensical, claim language via *Markman*. For example,
21 in *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372 (Fed. Cir. 2004),
22 a plaintiff asserted the '290 patent, which called for "heating the resulting batter-
23 coated dough to a temperature in the range of about 400° F. to 850° F." This
24 language was nonsensical, however, because "if the batter-coated dough [were]

1 heated to a temperature range of 400° F. to 850° F., as the claim instructs, it would
2 be burned to a crisp." *Id.* at 1373. So the patentholder pushed to construe the claim
3 to replace "to a temperature" with "at a temperature" – in other words, the dough
4 would be placed in an oven that hot, but the temperature of the dough need not rise
5 that high. *Id.*

6 The Federal Circuit, however, rejected the patentholder's request to redraw
7 the claims. As the *Chef America* Court observed:

8 This court, however, repeatedly and consistently has
9 recognized that courts may not redraft claims, whether to
10 make them operable or to sustain their validity. Even "a
11 nonsensical result does not require the court to redraft the
12 claims of the ['290] patent. Rather, where as here, claims
are susceptible to only one reasonable interpretation and
that interpretation results in a nonsensical construction of
the claim as a whole, the claim must be invalidated."

13 *Id.* at 1374 (citations omitted). In other words, per the Federal Circuit's "settled
14 practice," a claim is to be construed "as written, not as the patentees wish they had
15 written it." *Id.* The patentee in *Chef America* – like ViaSat here – never claimed
16 scrivener's error as to the '290 claim. *Id.* at 1375. Rather:

17 To the contrary they argue only that "to" should be
18 construed to mean "at" because otherwise the patented
19 process could not perform the function the patentees
intended. As we have noted, however, we have repeatedly
declined to rewrite unambiguous patent claim language
for that reason.

20 *Id.* Accordingly, the Federal Circuit declined the invitation to rewrite the '290
21 claims, and held them non-infringed under their literal meaning. *Id.* at 1376.

22 Likewise, in *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776
23 (Fed. Cir. 2010), the Federal Circuit analyzed a patent on a centrifuge. Claim 16 of
24 that patent claimed a "centrifugal unit comprising a centrifugal component and a

1 plurality of tubes." *Id.* at 780. The parties agreed the "centrifugal component"
2 referred to the centrifuge vessel. *Id.* The claim's limitations then later referred to the
3 "centrifugal unit" in a way that would only make sense if the "centrifugal unit"
4 comprised just the vessel, but not the tubes. And so the patentholder urged a
5 construction of "centrifugal unit" in these limitations of the claim as encompassing
6 only the "vessel." *Id.* at 780-81.

7 As in *Chef America*, the Federal Circuit rejected the attempt in *Haemonetics*
8 to correct the claim via claim construction. Noting first that "[p]atent claims
9 function to delineate the precise scope of a claimed invention and to give notice to
10 the public, including potential competitors, of the patentee's right to exclude," *id.* at
11 781, the *Haemonetics* Court then stressed that claims should be construed "with an
12 eye towards giving effect to all of their terms, even if it renders the claims
13 inoperable or invalid," *id.* (citations omitted and emphasis added). In other words,
14 even if the language of the claims would yield an "absurdity," courts are not to
15 "redraft claims to contradict their plain language in order to avoid a nonsensical
16 result." *Id.* at 782. Because the language in the *Haemonetics* patent "could hardly be
17 clearer" that a "centrifugal unit" comprised a vessel and tubes, *id.* at 781, the
18 Federal Circuit refused to construe the claim otherwise and remanded to the district
19 court for a consideration of indefiniteness, *id.* at 783-84.

20 In reaching an opposite conclusion, the Federal Circuit provided still further
21 guidance on this issue in *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355 (Fed.
22 Cir. 2011). In *Wellman*, the district court had found indefinite the T_{CH} limitations of
23 a patent, because the patent failed to explain which of a multitude of potential
24 testing procedures would be used to obtain the T_{CH} measurement. *Id.* at 1359-60.

1 The Federal Circuit reversed, reasoning:

2 *Chef America Inc. v. Lamb Weston, Inc.*, 358 F.3d 1371,
3 1374 (Fed.Cir.2004), among other cases, prohibits courts
4 from rewriting claims instead of interpreting the claims as
5 written. . . . Unlike in *Chef America*, however, construing
6 the claim to require testing on an "amorphous PET
7 material" does not replace any claim term with a different
term, but instead interprets the claimed DSC measuring
technique in light of the specifications, which clearly,
repeatedly, and unambiguously state that such tests should
be performed on amorphous PET material.

8 *Id.* at 1366-67 (emphasis added). Accordingly, the rule arising from *Chef*
9 *America/Hemonetics/Wellman* is clear – to stave off indefiniteness, a court can
10 attempt to construe an ambiguous or unclear claim term (if possible), but a court
11 should not replace one clear claim term with another clear claim.

12 This principle demands the invalidity of claim 7 of the '827 patent. Claim 7
13 "could hardly be clearer," *Haemonetics*, 607 F.3d at 781, that the transmitter picks
14 "one of" the GSO band or the NGSO spectrum in which to transmit, but does not
15 pick a GSO+NGSO spectrum. Although this language renders the claim
16 nonsensical, per *Chef America/Hemonetics/Wellman*, it is not for this Court to
17 correct that absurdity.

18 To be clear, the "receiver" limitation of claim 7 does not refer to the "NGSO
19 frequency band," whereas the "transmitter" limitation refers to the "NGSO
20 frequency spectrum." The patent cannot be read such that "spectrum" is somehow
21 broader than "band" and that "NGSO frequency spectrum" includes the GSO
22 frequency band. Rather, the '827 treats the terms "spectrum" and "band"
23 interchangeably. It thus recognizes that "NGSO frequency band" and "NGSO
24 frequency spectrum" mean the same thing. *Compare* V-1290 at 12:19-24 ("When

1 the NGSO satellite 215 is not in-line with respect to the GSO Earth terminal and the
2 GSO satellite, the command center will instruct the GSO Earth terminal and the
3 satellite to use the extended frequency spectrum, which includes the GSO
4 frequency spectrum 610 and NGSO frequency spectrum 620.") (emphasis added)
5 *with id.* Fig. 6 (labeling 620 as "NGSO band"); *see also* 12:10-24 (identifying the
6 same item 620 both as "NGSO frequency band 620" and "NGSO frequency
7 spectrum 620").

8 Moreover, the patent does not use the term "NGSO frequency spectrum" to
9 include the GSO band or spectrum. *E.g.*, V-1290 at 4:11-16 ("FIG. 8A is an
10 extended filter response incorporated an NGSO frequency spectrum that is above
11 the GSO frequency spectrum. FIG. 8B is an extended filter response incorporated
12 an NGSO frequency spectrum that is below the GSO frequency spectrum.").
13 Rather, the patent considers the "NGSO spectrum" to be something narrower than
14 the extended (GSO+NGSO) spectrum. *E.g.*, *id.* at 9:9-11 ("The extended spectrum
15 includes the GSO frequency spectrum and an NGSO frequency spectrum."); *id.* at
16 12:19-24.

17 This reading would be an attempt to replace the term "NGSO frequency
18 spectrum" with the equivalent of "extended frequency spectrum." ViaSat, of course,
19 could have written the transmitter limitation to read "in one of the GSO frequency
20 band and in the [extended] frequency spectrum" – but it did not. A claim is to be
21 construed "as written, not as the patentees wish they had written it." *Chef America*,
22 358 F.3d at 1374.

23 Nor can the "and" in the phrase "in one of the GSO frequency band and in the
24 NGSO frequency spectrum" be interpreted to be conjunctive, meaning that the

1 transmitter would transmit in "the GSO frequency band and in the NGSO frequency
2 spectrum" simultaneously. The claim term "and," however, does not demand a
3 conjunctive interpretation. *See, e.g., Ex Parte Ruddy & Becker*, 103 U.S.P.Q. 245,
4 246 (BPAI 1953) ("While the word used here is 'and' and not 'or' it is used in a
5 disconjunctive sense and must be read as equivalent to 'or.'").

6 In any event, in this instance it would be particularly inappropriate to read
7 "and" in the conjunctive sense. First, it makes no sense to read "in one of X and Y"
8 to mean merely "X and Y," because the phrase "in one of" would then have no
9 meaning. This Court should avoid any construction of the claims that renders claim
10 language superfluous. *See Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d
11 1553, 1557 (Fed. Cir. 1995) (a court "must give meaning to all the words in [the]
12 claims"); *Haemonetics*, 607 F.3d at 781.⁵

13 Second, a conjunctive reading of this claim would make the claim no less
14 indefinite. By this reading, the transmitter would transmit in "the GSO frequency
15 band and in the NGSO frequency spectrum" based upon the "activated frequency
16 mode." But, according to the claim, there are two activated frequency modes: (1)
17

18 ⁵ The phrasing of this claim makes it differ from the situation in *SuperGuide Corp.*
19 *v. DirecTV Enters., Inc.*, 358 F.3d 870 (Fed. Cir. 2004). There, the Federal Circuit
20 construed the claim term "at least one of a desired program start time, a desired
21 program end time, a desired program service, and a desired program type" to be
22 conjunctive – meaning that there had to be one or more program start times, one or
23 more desired program end times, one or more desired program services, and one or
24 more desired program types. *Id.* at 885-88. But the claim term here says "in one,"
not "at least one." Moreover, the claim plainly does not contemplate some selection
among multiple GSO and NGSO frequency bands, like the selection of a program
start time, a program end time, etc. in *SuperGuide* – as evidenced, for example, by
the claim's use of the article "the" before "NGSO frequency spectrum."

1 GSO and (2) GSO+NGSO. So the transmitter in the conjunctive interpretation
2 would ignore any interference situation and would always transmit in GSO+NGSO
3 – another nonsensical result.

4 Third, such a reading would contradict how the inventors used the identical
5 phrase "one of . . . and" elsewhere in claims 7 and 10 of the '827 patent. "One of . . .
6 and" is also used in the "circuitry" limitation of claim 7:

7 circuitry configured to establish an activated frequency
8 mode to activate one of a GSO frequency band mode and
9 an extended frequency spectrum mode based on
information indicating a presence or an absence of an
interference situation with an NGO satellite system; and

10 V-1290 claim 7 (emphasis added). Likewise, this language, "one of a GSO
11 frequency band mode and an extended frequency spectrum mode," later reappears
12 almost identically in claim 10:

13 based on the received information, causing the activating
14 in the GSO satellite and a ground station one of a GSO
15 frequency spectrum mode and an extended frequency
16 spectrum mode, the extended frequency spectrum mode
providing communication between a ground station and
the GSO satellite in a GSO frequency and a non-
geostationary (NGSO) frequency band

17 Based on the information they receive, the "circuitry" in claim 7 and the "command
18 module" in claim 10 therefore activate "one of a GSO frequency band [or spectrum]
19 mode and an extended frequency spectrum mode." (emphasis added). But as both
20 claims further make clear, the extended frequency mode includes both the GSO and
21 NGSO frequencies. Accordingly, if "one of . . . and" were read in the conjunctive,
22 then the circuitry in claim 7 and the command module in claim 10 would
23 simultaneously activate both a GSO mode and a GSO+NGSO mode. This would be
24 pointless, however, because GSO is already being transmitted in the GSO+NGSO

1 mode. Thus, the inventors must have used the phrase "one of . . . and" in the
2 disjunctive in the "circuitry" limitation in claim 7 and in claim 10, just like they did
3 in the "transmitter" limitation in claim 7. *Phillips v. AWH Corp.*, 415 F.3d 1303,
4 1314 (Fed. Cir. 2005) (holding that claim terms should normally be construed
5 consistently within a claim or across claims).

6 2. The "Information Indicating a Presence or an Absence of an
7 Interference Situation" Limitation of Claim 7 is Indefinite

8 Claim language that "depend[s] solely on the unrestrained, subjective opinion
9 of a particular individual purportedly practicing the invention" is indefinite.
10 *Datamize LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1350 (Fed. Cir. 2005).
11 When a subjective claim term is used, "[s]ome objective standard must be provided
12 in order to allow the public to determine the scope of the claimed invention." *Id.* A
13 claim term cannot be based on a subjective construction that "would depend on the
14 unpredictable vagaries of any one person's opinion." *Id.*⁶

15 Claim 7 has this subjectivity problem in its "circuitry" limitation. As SS/L
16 urged at claim construction, the claimed GSO satellite employs on-board orbital
17 data to determine whether an interference situation is present. Doc. No. 206. So
18 SS/L proposed to construe the "circuitry" limitation consistent with this
19 understanding: "A control device that uses orbital information to select one or more
20 appropriate frequency band(s) during the presence or absence of an interference

21 ⁶ Courts have often found terms indefinite where they were based on an individual's
22 subjective views. *See, e.g., STX, Inc. v. Brine, Inc.*, 37 F. Supp. 2d 740, 746 (D. Md.
23 1999) ("improved handling and playing characteristics"); *Romala Stone, Inc. v.*
24 *Home Depot U.S.A., Inc.*, 2007 WL 2904110, at *5-6 (N.D. Ga. Oct. 1, 2007)
("price affordable to the average consumer"); *Crane Co. v. Sandenvendo Am., Inc.*,
2009 WL 1586704, at *13 (E.D. Tex. June 5, 2009) ("rapidly").

1 situation." *Id.*

2 ViaSat, by contrast, asked that if this Court construes the "circuitry"
3 limitation, it should be held to mean "circuitry configured to select one or more
4 appropriate frequency band(s) during the presence or absence of an interference
5 situation with an NGSO satellite system" – a definition that ducks the question of
6 what determines the existence of the interference situation. *Id.* ViaSat was resisting
7 SS/L's construction for the unsurprising reason that the accused satellite, Jupiter-1,
8 lacks such "smart" on-board circuitry. Rather, Jupiter-1 contains a simple switch,
9 which simply turns the NGSO spectrum on or off based on instructions from the
10 ground. Those instructions are not "information indicating a presence or an absence
11 of an interference situation" – they are simple binary data instructing the satellite to
12 switch.

13 The point of the above infringement discussion is not to construe the claims
14 in light of the accused products. *Cf. Wilson Sporting Goods Co. v. Hillerich &*
15 *Bradsby Co.*, 442 F.3d 1322, 1326-27 (2006) ("While a trial court should certainly
16 not prejudge the ultimate infringement analysis by construing claims with an aim to
17 include or exclude an accused product or process, knowledge of that product or
18 process provides meaningful context for the first step of the infringement analysis,
19 claim construction"). Rather, it is to highlight that the claim is indefinite. This is
20 because infringement would turn on the subjective motivations of the individual on
21 the ground who makes the switching decision. That individual might instruct the
22 GSO satellite to switch off the NGSO spectrum for 5 minutes because he or she
23 performed a calculation and determined that the satellite would be in-line with an
24 NGSO satellite between 9:05 AM and 9:10 AM. One might argue that this is a

1 switching determination based on information indicating the presence or absence of
2 an interference situation. Alternatively, however, the individual might decide to
3 switch the NGSO spectrum off permanently starting next March, simply because he
4 or she read an article that indicated an NGSO satellite might be launched then. If so,
5 the individual's switching decision would be a general prophylactic measure, and
6 not an infringing choice to switch the NGSO spectrum on or off based on
7 information indicating the presence or absence of an "interference situation."

8 A claim that does not allow one of skill in the art to know from one use to the
9 next whether they are infringing is the "epitome of indefiniteness." *Geneva Pharm.,*
10 *Inc. v. GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003). The
11 "circuitry" limitation is thus indefinite. *See Datamize*, 417 F.3d at 1350.

12 3. Claim 8 is Invalid as Indefinite.

13 Claim 8 depends upon claim 7, so an examination of claim 7 is necessary to
14 understand claim 8. As discussed above, there are essentially three components to
15 the satellite in claim 7. First, a receiver on the satellite "receives" signals from the
16 ground. V-1290. Second, circuitry onboard the satellite activates a certain
17 frequency mode. *Id.* Third, the satellite's transmitter "transmits" in a certain
18 frequency band. In other words, the inventors wrote claim 7 from the perspective of
19 the GSO satellite itself – signals that the satellite receives from the Earth are
20 "received" signals, and signals that the satellite transmits to the Earth are
21 "transmitted" signals. Unlike claims 1 and 10 of the '827, claim 7's limitations are
22 not directed to the operation of any ground equipment. *See id.*

23 Claim 8 depends on claim 7, and it adds additional details about the internal
24 circuitry of the satellite. Its relevant limitations read:

1 The satellite of claim 7 further comprising:

2 a low-noise amplifier operative to amplify the transmitted
3 signals and output an amplified signal;

4 a frequency mixer having a first input adapted to receive
5 the amplified signal, a second input coupled to a local
6 oscillator, and an output having a plurality of frequency
7 products including a downlink extended frequency
8 spectrum, the downlink extended frequency spectrum
9 comprising a downlink GSO frequency band and a
10 downlink NGSO frequency band

11 V-1290 claim 8 (emphasis added). According to the language of this claim, the
12 GSO satellite contains a "low-noise amplifier" which amplifies certain signals, and
13 then outputs those amplified signals to a frequency mixer, which then passes on the
14 signals to other circuitry. But the signals that are amplified by the low-noise
15 amplifier are "the transmitted signals." *Id.* "The transmitted signals" must have an
16 antecedent basis, and the only possible antecedents are the signals that are
17 "transmitted" from the transmitter limitation in claim 7 ("a transmitter configured to
18 transmit in one of the GSO frequency band and in the NGSO frequency spectrum
19 based on the activated frequency spectrum mode"). *Id.*

20 This phrasing makes no sense, however, because signals that have left the
21 satellite by being transmitted could not be amplified by circuitry onboard the
22 satellite and then be subjected to all the steps of claim 8 – those signals are no
23 longer within the satellite's control. Moreover, the transmitted signals are, by
24 definition, associated with the downlink frequency band, whereas the low noise
amplifier acts on signals (which would have been received onboard the satellite in
the distinct and non-overlapping uplink frequency band), prior to these signals
being input to the frequency mixer. The frequency mixer is the first satellite
component that produces an output signal in the downlink frequency spectrum.

1 Accordingly, claim 8 is nonsensical and indefinite.

2 Nor do the "the transmitted signals" in claim 8 refer to the signals "received"
3 by the satellite which were previously "transmitted" from a ground station. Yet
4 claim 7 uses the terms "transmit" and "receive" distinctly. *See Exxon*, 64 F.3d at
5 1557 (A court "must give meaning to all the words in [the] claims"). Indeed the
6 transmitted and received signals are in distinct frequency bands, corresponding to
7 the authorized downlink and uplink frequencies respectively, separated by some
8 10GHz. So, to credit this potential response would be to assign two different
9 meanings to the term "transmit" within the same claim, a disfavored approach.
10 *Rexnord Corp. v. Laitrum Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001). "[W]here,
11 as here, claims are susceptible to only one reasonable interpretation and that
12 interpretation results in a nonsensical construction of the claim as a whole, the
13 claim must be invalidated." *Chef America*, 358 F.3d at 1374. In short, a claim is to
14 be construed "as written, not as the patentees wish they had written it." *Id.*

15 **III. CONCLUSION**

16 For the foregoing reasons, SS/L requests judgment as a matter of law that the
17 foregoing claims of the '043 and '827 patents are indefinite.
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19
20

21 Dated: April 9, 2014

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CERTIFICATE OF SERVICE

I hereby certify that, on April 9, 2014, I caused the foregoing **DEFENDANTS' MOTION FOR JUDGMENT AS A MATTER OF LAW OF INDEFINITENESS** to be served on opposing counsel via the Court's CM/ECF system.

Dated: April 9, 2014

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