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13 UNITED STATES DISTRICT COURT
14 SOUTHERN DISTRICT OF CALIFORNIA

15 VIASAT, INC., VIASAT
16 COMMUNICATIONS, INC., f/k/a
WILDBLUE COMMUNICATIONS,
17 INC.,

Plaintiffs,

vs.

18 SPACE SYSTEMS/LORAL, INC.,
19 LORAL SPACE &
COMMUNICATIONS, INC.,

20 Defendants/Counterclaim
21 Plaintiffs.

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

Hon. Marilyn L. Huff

**SPACE SYSTEMS/LORAL, LLC
AND LORAL SPACE &
COMMUNICATIONS INC.'S
MOTION FOR SUMMARY
JUDGMENT OF INVALIDITY OF
THE ASSERTED CLAIMS OF
VIASAT'S '827 PATENT, OR, IN
THE ALTERNATIVE, OF NON-
INFRINGEMENT**

Date: May 24, 2013

Time: 9:00 a.m.

Place: Courtroom 15A

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24 [REDACTED – PUBLIC VERSION]

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7 **STATUTES**

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I. Introduction

Defendants and Counterclaim Plaintiffs Space Systems/Loral, LLC and Loral Space & Communications Inc. (collectively, “SS/L”) move for summary judgment that the asserted claims of Plaintiff and Counterclaim Defendant ViaSat, Inc.’s U.S. Patent No. 8,068,827 (“the ‘827”) are invalid as indefinite. ViaSat has asserted three ‘827 claims against SS/L (claims 7, 8, and 9), and, remarkably, between them they suffer from five different drafting problems:

First, claim 7 purports to cover circuitry that feeds to a satellite’s transmitter instructions either (1) to transmit in only the geostationary (“GSO”) frequency band, or (2) to transmit in both the GSO and nongeostationary (“NGSO”) 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.

Second, the satellite in claim 7 makes transmission determinations based on “information indicating a presence or an absence of an interference situation.” But, 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.

Third, claim 8 describes a “low-noise amplifier operative to amplify the transmitted signals and output an amplified signal,” along with a “frequency mixer having a first input adapted to receive the amplified signal.” These limitations are nonsensical, because “transmitted” signals are signals 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.

Fourth, claim 9 describes coupling “the output of the switch to the first input or the second input.” But these terms are indefinite for lacking an antecedent basis; neither claim 9 nor claim 7 (on which claim 9 depends) ever describes “a switch,” “a first input,” or “a second input.”

1
2 Fifth, claim 9 provides for “a control device” that is configured to decode
3 instructions from “a command module,” and it then indicates that this
4 “control module” provides information indicating the presence or the
5 absence of an interference event. The term “control module” makes no
6 sense, because it is unclear whether this refers to the previously-
7 referenced “control device” or “command module.”

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

10 Alternatively, if this Court opts not to find these claims to be indefinite, then
11 there is no infringement as a matter of law. As to claim 7, it is undisputed that the
12 accused satellite, Jupiter-1, [REDACTED].
13 Because there is no fact issue as to the non-infringement of claim 7, dependent
14 claims 8 and 9 are also not infringed. Furthermore, Jupiter-1 [REDACTED]
15 [REDACTED]
16 [REDACTED]. So SS/L indisputably does not infringe
17 claim 8 for that additional reason.

18 **II. Legal Standard**

19 Under 35 U.S.C. § 112, ¶ 2, patent claims must be “sufficiently definite to
20 inform the public of the bounds of the protected invention.” *Halliburton Energy*
21 *Servs., Inc. v. M-I LLC*, 514 F.3d 1244, 1249 (Fed. Cir. 2008). Claim language is
22 indefinite, and the claim is therefore invalid, if one skilled in the art cannot
23 “determine the bounds of the claims, i.e., the claims [are] insolubly ambiguous.”
24 *Halliburton*, 514 F.3d at 1249. Moreover, “[e]ven if a claim term’s definition can
be reduced to words, the claim is still indefinite if a person of ordinary skill in the
art cannot translate the definition into meaningfully precise claim scope.” *Id.* at

1 1251. A party challenging a patent claim as indefinite must prove its invalidity by
2 clear and convincing evidence. *Id.*

3 When, as here, “arguments of indefiniteness involve allegations of internal
4 contradiction based upon the wording of the claims,” it can be appropriate to
5 resolve the issue of indefiniteness as a matter of law on summary judgment. *Enzo*
6 *Life Sciences, Inc. v. Digene Corp.*, 305 F. Supp. 2d 406, 408 (D. Del. 2004) (so
7 holding but denying motion); *see also Presidio Components, Inc. v. American Tech.*
8 *Ceramics Corp.*, 2008 WL 3925723, at *3-4 (S.D. Cal. Aug. 25, 2008) (reaching
9 same holding and resolution of motion).

10 **III. Background on the ‘827 Patent**

11 The ‘827 patent focuses on GSO satellites. *See* ‘827, claim 7. “A GSO
12 satellite is in orbit about 35,800 KM above the equator, and its revolution around
13 the earth is synchronized with the earth’s rotation. Therefore, the GSO satellite
14 appears stationary, i.e., fixed in the sky to an observer on the earth’s surface.” ‘827,
15 1:50-54; *see also* ViaSat Third Amended Complaint (“TAC”), ¶26 (describing GSO
16 satellites as “stay[ing] in the same place in the sky”).

17 The alternative to a GSO satellite is an NGSO satellite. “Unlike GSO
18 satellites, NGSO satellites typically travel at low and medium altitudes and have
19 variable orbits that are below the GSO orbit.” ‘827, 1:54-56. To an earthbound
20 observer, an NGSO satellite “moves across the sky.” TAC, ¶26.

21 The Federal Communications Commission allocates frequency spectrum for
22 communications satellites servicing the United States, and in the Ka-band it has
23 designated different frequencies for primary usage by GSO and NGSO satellites.
24 “The allocated GSO frequency bands differ from those allocated to NGSO satellite

1 systems to avoid interference.” ‘827, 2:3-5. By designating different frequencies as
2 the primary operating frequencies for GSO and NGSO satellites, the FCC intended
3 to avoid interference situations – such as where a ground station was
4 communicating with a GSO satellite but had those communications interrupted
5 intermittently when an NGSO passed in between the GSO satellite and the ground
6 station used the same frequency band. *See generally* ‘827, columns 8 & 9.

7 According to ViaSat, the novelty of the ‘827 patent comes from the supposed
8 realization that NGSO frequencies were underutilized and could be employed on a
9 secondary (non-interfering) basis by GSO satellites. TAC, ¶25. So ViaSat claims
10 that it developed a novel design for a GSO satellite that could employ both the GSO
11 spectrum and the underutilized NGSO spectrum, without causing interference. *Id.*,
12 ¶26. As ViaSat describes these supposed innovations, its new GSO satellite would
13 continuously transmit in the primary GSO spectrum, but would automatically and
14 dynamically switch on and off transmissions in the secondary NGSO spectrum if
15 those transmissions might interfere with an NGSO satellite. *Id.* ViaSat alleges that
16 it applied for a patent on this design, and its application eventually issued as the
17 ‘827 patent. *Id.*

18 This motion pertains to the three asserted claims of the ‘827 patent, claims 7,
19 8, and 9. Claim 7 is an independent claim, which provides:

20 A geostationary orbit (GSO), satellite comprising:
21 a receiver configured to receive from one or more ground stations signals
22 in a GSO frequency band and in an extended frequency spectrum, the
23 extended frequency spectrum including the GSO frequency band and a
24 non-geostationary orbit (NGSO) frequency band;

circuitry configured to establish an activated frequency mode to activate
one of a GSO frequency band mode and an extended frequency spectrum

1 mode based on information indicating a presence or an absence of an
2 interference situation with an NGSO satellite system; and

3 a transmitter configured to transmit in one of the GSO frequency band and
4 in the NGSO frequency spectrum based on the activated frequency
spectrum mode.

5 Claim 8 depends on claim 7 and describes satellite circuitry for switching between
6 the GSO frequency band and the extended frequency spectrum:

7 The satellite of claim 7 further comprising:

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

10 a frequency mixer having a first input adapted to receive the amplified
11 signal, a second input coupled to a local oscillator, and an output having a
12 plurality of frequency products including a downlink extended frequency
13 spectrum, the downlink extended frequency spectrum comprising a
14 downlink GSO frequency band and a downlink NGSO frequency band;
15 a splitter having an input coupled to the mixer output, a first splitter
16 output and a second splitter output;

17 a switch having a first input, a second input, and an output; a first
18 bandpass filter having a first bandpass input coupled to the first splitter
19 output and a first bandpass output coupled to the first input of the switch;
20 a second bandpass filter having a second bandpass input coupled to the
21 second splitter output and a second output coupled to the second input of
the switch;

22 the first bandpass filter being configured to pass the GSO frequency band;
23 the second bandpass filter being configured to pass the extended
24 frequency spectrum; and
the output of the switch being selectively coupled to either the first switch
input or the second switch input.

25 Lastly, claim 9 also depends on claim 7, and it describes certain circuitry relating to
26 decoding instructions and the identification of interference:

1 The satellite of claim 7 further comprising:

2 a control device configured to decode instructions from a command
3 module to couple the output of the switch to the first input or the second
4 input according to the decoded instructions, the control module providing
5 the information indicating presence or absence of an interference situation
with an NGSO satellite system.

6 **IV. Claims 7, 8, and 9 of the ‘827 Patent Are Invalid as Indefinite**

7 A. Claim 7 is Invalid as Indefinite

8 1. The “Transmitter” Limitation is Indefinite

9 Claim 7 of the ‘827 patent essentially describes a three-component satellite.
10 The first component is identified in the first limitation of claim 7, which provides
11 for a “receiver.” This receiver receives two different types of signals from the
12 ground: “[1] in a GSO frequency band and [2] in an extended frequency spectrum,
13 the extended frequency spectrum including the GSO frequency band and a non-
14 geostationary orbit (NGSO) frequency band.” ‘827, claim 7 (numbering added for
15 clarity).

16 The second component of this satellite, corresponding to the second
17 limitation of the claim, is its onboard “circuitry.” This circuitry selects an “activated
18 frequency mode . . . based on information indicating a presence or an absence of an
19 interference situation with an NGSO satellite system.” There are two options for
20 this activated frequency mode: “one of [1] a GSO frequency band mode and [2] an
21 extended frequency spectrum mode.” *Id.* (emphasis and numbering added for
22 clarity). The “extended frequency spectrum mode” in this limitation refers back to
23 the “extended frequency spectrum” in the first limitation, which was defined to
24

1 include both GSO and NGSO. So the two “activated frequency modes” here are
2 either (1) GSO-only mode or (2) GSO+NGSO mode.

3 The third component of the claimed GSO satellite system – and the third
4 limitation of Claim 7 – is a “transmitter.” This “transmitter” changes its
5 transmission characteristics based upon “the activated frequency spectrum mode.”
6 Accordingly, the input to the transmitter is one of the two “activated frequency
7 spectrum modes” – either (1) the GSO-only mode, or (2) the GSO+NGSO mode.
8 But this is not the output of the transmitter. Rather, claim 7 dictates that the
9 transmitter will transmit “in one of [1] the GSO frequency band and [2] in the
10 NGSO frequency spectrum.” ‘827, claim 7 (emphasis and numbering added for
11 clarity). The claimed GSO satellite therefore does not actually transmit in a
12 combined GSO+NGSO mode. Instead, it picks “one of” the GSO frequency band
13 and the NGSO frequency spectrum.

14 The transmitter limitation in claim 7 is thus nonsensical and, accordingly,
15 indefinite. *Halliburton*, 514 F.3d at 1249. Here, the claim describes a satellite that
16 determines whether it should transmit in either a GSO mode or in a GSO+NGSO
17 mode, but, after having made that choice, the satellite then transmits either in GSO-
18 only or in NGSO-only. One of skill in the art could not understand what was
19 intended by this claim, insofar as it requires the satellite to make a transmission
20 determination that the satellite then explicitly does not follow. Claim 7 is therefore
21 insolubly ambiguous and indefinite.

22 One option ViaSat could have pursued to preserve the validity of Claim 7
23 would have been to ask this Court to construe Claim 7 in such a way as to make it
24 coherent. But ViaSat has not done so. On April 8, 2013 – the deadline for parties to

1 propose terms for construction – ViaSat declined to construe the transmitter
2 limitation. Bageant Decl., Ex. A. That same day, SS/L identified the “transmitter”
3 limitation as indefinite. ViaSat was entitled to respond to SS/L’s contentions on
4 April 12, 2013, but, in so doing, ViaSat simply asserted that, for the “transmitter”
5 limitation, “no construction [was] necessary.” Bageant Decl., Ex. B, at 9.
6 Accordingly, ViaSat has waived its right to rescue the “transmitter” limitation via
7 claim construction.

8 In any event, even if ViaSat had asked for a corrective construction of the
9 “transmitter” limitation, this Court should have rejected such a fix. This is not a
10 situation where there was a scrivener’s error or a PTO misprint. *Cf. TransAmerica*
11 *Life Ins. Co. v. Lincoln Nat. Life Ins. Co.*, 550 F. Supp. 2d 865, 975-76 (N.D. Iowa
12 Mar. 10, 2008) (changing a scrivener’s erroneous “plus sign” to a “minus sign”).
13 The phrase “in one of the GSO frequency band and in the NGSO frequency
14 spectrum” appeared in the original claim 7 that ViaSat submitted to the PTO.
15 Bageant Decl., Ex. C, at 7 (proposing then-claim 12). The language is plain and
16 simple, and ViaSat has never argued the inventors did not intend it.

17 Accordingly, claim 7 falls squarely within the Federal Circuit rule that courts
18 are not to redraft plain, but nonsensical, claim language via *Markman*. For example,
19 in *Chef America, Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1372 (Fed. Cir. 2004),
20 a plaintiff asserted the ‘290 patent, which called for “heating the resulting batter-
21 coated dough to a temperature in the range of about 400° F. to 850° F.” This
22 language was nonsensical, however, because “if the batter-coated dough [were]
23 heated to a temperature range of 400° F. to 850° F., as the claim instructs, it would
24 be burned to a crisp.” *Id.* at 1373. So the patentholder pushed to construe the claim

1 to replace “to a temperature” with “at a temperature” – in other words, the dough
2 would be placed in an oven that hot, but the temperature of the dough need not rise
3 that high. *Id.*

4 The Federal Circuit, however, rejected the patentholder’s request to redraw
5 the claims. As the *Chef America* Court observed:

6 This court, however, repeatedly and consistently has recognized that
7 courts may not redraft claims, whether to make them operable or to
8 sustain their validity. Even “a nonsensical result does not require the court
9 to redraft the claims of the [’290] patent. Rather, where as here, claims are
10 susceptible to only one reasonable interpretation and that interpretation
11 results in a nonsensical construction of the claim as a whole, the claim
12 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 construed to mean
18 “at” because otherwise the patented process could not perform the
19 function the patentees intended. As we have noted, however, we have
20 repeatedly declined to rewrite unambiguous patent claim language for that
21 reason.

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

24 Likewise, in *Haemonetics Corp. v. Baxter Healthcare Corp.*, 607 F.3d 776
(Fed. Cir. 2010), the Federal Circuit analyzed a patent on a centrifuge. Claim 16 of
that patent claimed a “centrifugal unit comprising a centrifugal component and a
plurality of tubes.” *Id.* at 780. The parties agreed the “centrifugal component”

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

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

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

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

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

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

19 ViaSat may advance two arguments in response. First, the “receiver”
20 limitation of claim 7 refers to the “NGSO frequency band,” but the “transmitter”
21 limitation refers to the “NGSO frequency spectrum.” ViaSat may attempt to argue
22 that “spectrum” is somehow broader than “band” and that, oddly, the “NGSO
23 frequency spectrum” includes the GSO frequency band.

24 The ‘827, however, treats the terms “spectrum” and “band” interchangeably.
It thus recognizes that “NGSO frequency band” and “NGSO frequency spectrum”
mean the same thing. *Compare* ‘827, 12:19-24 (“When the NGSO satellite 215 is
not in-line with respect to the GSO Earth terminal and the GSO satellite, the

1 command center will instruct the GSO Earth terminal and the satellite to use the
 2 extended frequency spectrum, which includes the GSO frequency spectrum 610 and
 3 NGSO frequency spectrum 620.") (emphasis added) *with id.* Fig. 6 (labeling 620 as
 4 "NGSO band"); *see also* 12:10-24 (identifying the same item 620 both as "NGSO
 5 frequency band 620" and "NGSO frequency spectrum 620").¹

6 Moreover, the patent does not use the term "NGSO frequency spectrum" to
 7 include the GSO band or spectrum. *E.g.*, '827, 4:11-16 ("FIG. 8A is an extended
 8 filter response incorporated an NGSO frequency spectrum that is above the GSO
 9 frequency spectrum. FIG. 8B is an extended filter response incorporated an NGSO
 10 frequency spectrum that is below the GSO frequency spectrum."). Rather, the
 11 patent considers the "NGSO spectrum" to be something narrower than the extended
 12 (GSO+NGSO) spectrum. *E.g.*, *id.* at 9:9-11 ("The extended spectrum includes the
 13 GSO frequency spectrum and an NGSO frequency spectrum."); *id.* at 12:19-24.

14 If ViaSat pursues this argument, it will simply be an attempt to replace the
 15 term "NGSO frequency spectrum" with the equivalent of "extended frequency
 16 spectrum." ViaSat, of course, could have written the transmitter limitation to read
 17 "in one of the GSO frequency band and in the [extended] frequency spectrum" –
 18

19 ¹ ViaSat itself has used the terms interchangeably. In its infringement contentions
 20 for the transmitter limitation, for example, ViaSat alleged: [REDACTED]

21 [REDACTED]
 22 Bageant Decl., Ex. F, at 4 (emphasis added). Claim 7, however, never
 23 uses the term "GSO frequency spectrum" – it only refers to the "GSO frequency
 24 band." ViaSat in drafting its contentions thus understood "spectrum" and "band" to
 be synonymous. *See also id.* (frequently describing a "band" as satisfying claim
 limitations that discuss "spectrum").

1 but it did not. A claim is to be construed “as written, not as the patentees wish they
2 had written it.” *Chef America*, 358 F.3d at 1374.

3 A second response ViaSat may advance is to argue that the “and” in the
4 phrase “in one of the GSO frequency band and in the NGSO frequency spectrum”
5 should be interpreted to be conjunctive, meaning that the transmitter would transmit
6 in “the GSO frequency band and in the NGSO frequency spectrum”
7 simultaneously. The claim term “and,” however, does not demand a conjunctive
8 interpretation. *See, e.g., Ex Parte Ruddy & Becker*, 103 U.S.P.Q. 245, 246 (BPAI
9 1953) (“While the word used here is ‘and’ and not ‘or’ it is used in a disjunctive
10 sense and must be read as equivalent to ‘or.’”).

11 In any event, in this instance it would be particularly inappropriate to read
12 “and” in the conjunctive sense. First, it makes no sense to read “in one of X and Y”
13 to mean merely “X and Y,” because the phrase “in one of” would then have no
14 meaning. This Court should avoid any construction of the claims that renders claim
15 language superfluous. *See Exxon Chemical Patents, Inc. v. Lubrizol Corp.*, 64 F.3d
16 1553, 1557 (Fed. Cir. 1995) (a court “must give meaning to all the words in [the]
17 claims”); *Haemonetics*, 607 F.3d at 781.²

18 ² 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.”

Second, a conjunctive reading of this claim would make the claim no less indefinite. By this reading, the transmitter would transmit in “the GSO frequency band and in the NGSO frequency spectrum” based upon the “activated frequency mode.” But, according to the claim, there are two activated frequency modes: (1) GSO and (2) GSO+NGSO. So the transmitter in the conjunctive interpretation would ignore any interference situation and would always transmit in GSO+NGSO – another nonsensical result.

Third, such a reading would contradict how the inventors used the identical phrase “one of . . . and” elsewhere in claims 7 and 10 of the ‘827 patent. “One of . . . and” is also used in the “circuitry” limitation of claim 7:

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

‘827, claim 7 (emphasis added). Likewise, this language, “one of a GSO frequency band mode and an extended frequency spectrum mode,” later reappears almost identically in claim 10:

based on the received information, causing the activating in the GSO satellite and a ground station one of a GSO frequency spectrum mode and an extended frequency 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

Based on the information they receive, the “circuitry” in claim 7 and the “command module” in claim 10 therefore activate “one of a GSO frequency band [or spectrum] mode and an extended frequency spectrum mode.” (emphasis added). But as both claims further make clear, the extended frequency mode includes both the GSO and

1 NGSO frequencies. Accordingly, if “one of . . . and” were read in the conjunctive,
 2 then the circuitry in claim 7 and the command module in claim 10 would
 3 simultaneously activate both a GSO mode and a GSO+NGSO mode. This would be
 4 pointless, however, because GSO is already being transmitted in the GSO+NGSO
 5 mode. Thus, the inventors must have used the phrase “one of . . . and” in the
 6 disjunctive in the “circuitry” limitation in claim 7 and in claim 10, just like they did
 7 in the “transmitter” limitation in claim 7. *Phillips v. AWH Corp.*, 415 F.3d 1303,
 8 1314 (Fed. Cir. 2005) (holding that claim terms should normally be construed
 9 consistently within a claim or across claims).

10 2. The “Information Indicating a Presence or an Absence of an
 11 Interference Situation” Limitation of Claim 7 is Indefinite

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

21 ³ 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 Claim 7 has this subjectivity problem in its “circuitry” limitation. As SS/L
2 reads the circuitry limitation, the claimed GSO satellite employs on-board orbital
3 data to determine whether an interference situation is present. So SS/L has proposed
4 to construe the “circuitry” limitation consistent with this understanding: “A control
5 device that uses orbital information to select one or more appropriate frequency
6 band(s) during the presence or absence of an interference situation.” Bageant Decl.,
7 Ex. D, at 4-5.

8 ViaSat, by contrast, asks that if this Court construes the “circuitry” limitation,
9 it should be held to mean “circuitry configured to select one or more appropriate
10 frequency band(s) during the presence or absence of an interference situation with
11 an NGSO satellite system” – a definition that ducks the question of what
12 determines the existence of the interference situation. Bageant Decl., Ex. B, at 8.
13 ViaSat is resisting SS/L’s construction for the unsurprising reason that the accused
14 satellite, Jupiter-1, lacks such “smart” on-board circuitry. Rather, Jupiter-1 contains
15 a “dumb” switch, which simply turns the NGSO spectrum on or off based on
16 instructions from the ground. Those instructions are not “information indicating a
17 presence or an absence of an interference situation” – they are simple binary data
18 instructing the satellite to switch.

19 The point of the above infringement discussion is not to construe the claims
20 in light of the accused products. *Cf. Wilson Sporting Goods Co. v. Hillerich &*
21 *Bradsby Co.*, 442 F.3d 1322, 1326-27 (2006) (“While a trial court should certainly
22 not prejudge the ultimate infringement analysis by construing claims with an aim to
23 include or exclude an accused product or process, knowledge of that product or
24 process provides meaningful context for the first step of the infringement analysis,

1 claim construction”). Rather, it is to highlight that – if SS/L’s proposed construction
2 is not accepted – the claim is indefinite. This is because, absent SS/L’s
3 construction, infringement would turn on the subjective motivations of the
4 individual on the ground who makes the switching decision. That individual might
5 instruct the GSO satellite to switch off the NGSO spectrum for 5 minutes because
6 he or she performed a calculation and determined that the satellite would be in-line
7 with an NGSO satellite between 9:05 AM and 9:10 AM. One might argue that this
8 is a switching determination based on information indicating the presence or
9 absence of an interference situation. Alternatively, however, the individual might
10 decide to switch the NGSO spectrum off permanently starting next March, simply
11 because he or she read an article that indicated an NGSO satellite might be
12 launched then. If so, the individual’s switching decision would be a general
13 prophylactic measure, and not an infringing choice to switch the NGSO spectrum
14 on or off based on information indicating the presence or absence of an
15 “interference situation.”

16 Therefore, if the circuitry limitation is construed as ViaSat seeks (that is, with
17 no construction), then infringement will turn on the subjective motivations of an
18 individual instructing the accused satellite to switch on or off.⁴ A claim that does
19 not allow one of skill in the art to know from one use to the next whether they are
20 infringing is the “epitome of indefiniteness.” *Geneva Pharm., Inc. v.*
21 *GlaxoSmithKline PLC*, 349 F.3d 1373, 1384 (Fed. Cir. 2003). The “circuitry”
22 limitation is thus indefinite. *See Datamize*, 417 F.3d at 1350.

23 ⁴ This individual, moreover, would not even be associated with the Defendants.
24 Neither SS/L nor Loral operates Jupiter-1’s ground equipment.

1 B. Claim 8 is Invalid as Indefinite

2 Claim 8 depends upon claim 7, so an examination of claim 7 is necessary to
3 understand claim 8. As discussed above, there are essentially three components to
4 the satellite in claim 7. First, a receiver on the satellite “receives” signals from the
5 ground. Second, circuitry onboard the satellite activates a certain frequency mode.
6 Third, the satellite’s transmitter “transmits” in a certain frequency band. In other
7 words, the inventors wrote claim 7 from the perspective of the GSO satellite itself –
8 signals that the satellite receives from the Earth are “received” signals, and signals
9 that the satellite transmits to the Earth are “transmitted” signals. Unlike claims 1
10 and 10 of the ‘827, claim 7’s limitations are not directed to the operation of any
11 ground equipment.

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

14 The satellite of claim 7 further comprising:

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

17 a frequency mixer having a first input adapted to receive the amplified
18 signal, a second input coupled to a local oscillator, and an output having a
19 plurality of frequency products including a downlink extended frequency
20 spectrum, the downlink extended frequency spectrum comprising a
21 downlink GSO frequency band and a downlink NGSO frequency band

22 ‘827, claim 8 (emphasis added). According to the language of this claim, the GSO
23 satellite contains a “low-noise amplifier” which amplifies certain signals, and then
24 outputs those amplified signals to a frequency mixer, which then passes on the
25 signals to other circuitry. But the signals that are amplified by the low-noise

1 amplifier are “the transmitted signals.” “The transmitted signals” must have an
2 antecedent basis, and the only possible antecedents are the signals that are
3 “transmitted” from the transmitter limitation in claim 7 (“a transmitter configured to
4 transmit in one of the GSO frequency band and in the NGSO frequency spectrum
5 based on the activated frequency spectrum mode”).

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

16 ViaSat will likely respond that “the transmitted signals” in claim 8 must refer
17 to the signals “received” by the satellite which were previously “transmitted” from
18 a ground station. Yet claim 7 uses the terms “transmit” and “receive” distinctly. *See*
19 *Exxon*, 64 F.3d at 1557 (A court “must give meaning to all the words in [the]
20 claims”). Indeed the transmitted and received signals are in distinct frequency
21 bands, corresponding to the authorized downlink and uplink frequencies
22 respectively, separated by some 10GHz. So, to credit this potential response would
23 be to assign two different meanings to the term “transmit” within the same claim, a
24 disfavored approach. *Rexnord Corp. v. Laitrum Corp.*, 274 F.3d 1336, 1342 (Fed.

1 Cir. 2001). “[W]here, as here, claims are susceptible to only one reasonable
2 interpretation and that interpretation results in a nonsensical construction of the
3 claim as a whole, the claim must be invalidated.” *Chef America*, 358 F.3d at 1374.
4 Perhaps ViaSat would prefer this limitation to read “a low-noise amplifier operative
5 to amplify the received signals and output an amplified signal,” but a claim is to be
6 construed “as written, not as the patentees wish they had written it.” *Id.*

7 C. Claim 9 is Invalid as Indefinite

8 1. The Terms in Claim 9 Lack an Antecedent Basis

9 A claim may be indefinite if its terms lack any antecedent basis. *See*
10 *Halliburton*, 514 F.3d at 1249 (“[A] claim could be indefinite if a term does not
11 have proper antecedent basis where such basis is not otherwise present by
12 implication or the meaning is not reasonably ascertainable.”); Manual of Patent
13 Examining Procedure (MPEP), § 2173.05(e) (8th Ed., rev. Aug. 2012) (“A claim is
14 indefinite when it contains words or phrases whose meaning is unclear. The lack of
15 clarity could arise where a claim refers to “said lever” or “the lever,” where the
16 claim contains no earlier recitation or limitation of a lever and where it would be
17 unclear as to what element the limitation was making reference”). Here, Claim
18 9 provides:

19 The satellite of claim 7 further comprising: a control device configured to
20 decode instructions from a command module to couple the output of the
21 switch to the first input or the second input according to the decoded
22 instructions, the control module providing the information indicating
presence or absence of an interference situation with an NGSO satellite
system.

23 As such, per claim 9 a “control device” is configured to decode instructions from a
24 command module to “couple the output of the switch to the first input or the second

1 input” (emphasis added). But neither claim 7 nor claim 9 describes a switch, a first
2 input, or a second input. One of skill in the art therefore could not understand the
3 antecedent basis for these terms, because there is no telling to what specific
4 “switch,” “first input,” or “second input” the claim is referring.

5 It is true that courts often work hard to find antecedent bases for claim terms
6 which facially appear to lack them. *E.g.*, *Energizer Holdings Inc. v. Int’l Trade*
7 *Comm’n*, 435 F.3d 1366 (Fed. Cir. 2006). This is permissible to salvage a claim,
8 however, only where there is antecedent support in the claims themselves or in the
9 specification. Here, there is no other mention of these terms in claims 7 or 9. So one
10 must turn to the specification. Arguably, examples of a “switch” can be found in the
11 specification, although it would not be certain to which “switch” claim 9 is
12 referring. Moreover, the only mention of a “first input” and a “second input” in the
13 specification occurs in the “Summary of Invention” section, and that is simply a
14 paraphrasing of claims 8 and 9. ‘827, 3:9-20.⁵ An “input” is inherently a vague and
15 ambiguous term – any piece of data could be an “input.” If a claim is to refer to “the
16 input,” to provide fair notice to potential infringers there must be clarity as to what
17 “input” is referenced. *Illinois Computer Research LLC v. HarperCollins*
18 *Publishers, Inc.*, 2012 WL 163801, at *10-11 (S.D.N.Y. Jan. 19, 2012) (claim
19 term “said requests” was indefinite for lack of antecedent basis because the claim
20

21 ⁵ Claim 8 cannot provide antecedent basis for claim 9. Claim 9 depends on claim 7,
22 not claim 8. Indeed, ViaSat’s own infringement contentions for claim 9 refer only
23 to claim 7, not claim 8. See Bageant Decl., Ex. F, at 8 (identifying how SS/L
24 allegedly infringes claim 9 by saying, in part, “[s]ee Claim 7.”). Accordingly, one
of skill in the art would not consult unrelated claim 8 to discern the antecedent
bases of the terms in claim 9.

1 language and specification were ambiguous as to what was making the request.).
2 Neither the claims nor the specification, however, provide any.

3 2. The Term “Control Module” is Unclear and Indefinite

4 Claim 9 adds as a limitation to claim 7 a “control device” that is configured
5 to decode instructions from a “command module.” Claim 9 then explains the
6 circuitry further, indicating that “the control module provid[es] the information
7 indicating presence of absence of an interference situation with an NGSO satellite
8 system.” Claim 9 thus instructs the reader that the control module – presumably a
9 “control module” that has been mentioned before – provides the interference
10 information. But what is “the control module”? The drafter of claim 9 appears to
11 have mashed together the circuits actually described in the claim – the “control
12 device” and the “command module” – to create a “control module.” This claim
13 term is therefore indefinite, because there is no telling to what this “control
14 module” refers.

15 The specification of the ‘827 frequently mentions “control devices” and
16 “command modules.” The only appearance in the ‘827 patent of the term “control
17 module,” however, is in claim 9 itself. The failure of a claim term to appear in the
18 specification does not, in and of itself, render that claim term indefinite. For
19 example, the specification might describe a related term, and so from context it
20 would be possible to discern the meaning of the claim term. *Bancorp Services,*
21 *L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004). Here,
22 however, it is not possible to turn to the specification for answers, because the
23 claim term “control module” points in two different directions – to the “control
24 device” or to the “command module.” It lacks any antecedent basis in the patent

1 itself and it is impossible to determine whether it means the “control device,” the
2 “command module,” or some third and undisclosed concept. The term is hopelessly
3 ambiguous, not capable of construction, and therefore indefinite as a matter of law.
4 *See id.*

5 **V. Alternatively, There is No Infringement of the Literal Reading of Claims**
6 **7, 8, and 9**

7 This Court may also dismiss ViaSat’s ‘827 allegations by finding that SS/L
8 has not infringed the ‘827, whether or not the asserted claims are definite. As
9 discussed above, the GSO frequency band is the frequency band allocated by the
10 FCC for primary usage by GSO satellites. Accordingly, it would be odd to design a
11 satellite – as literally claimed by claim 7 – that utilized its primary GSO band only
12 when there was NGSO interference, but then turned off GSO transmissions and
13 employed the NGSO band in periods of non-interference. [REDACTED]

14 [REDACTED]
15 In fact, even ViaSat does not believe that Jupiter-1 operates in such a
16 manner. ViaSat alleges in its infringement contentions that [REDACTED]

17 [REDACTED]
18 [REDACTED]
19 [REDACTED]
20 [REDACTED]
21 Bageant Decl., Ex. F, at 4 (emphasis added). So, instead of explaining how the
22 accused transmitter transmits “in one of the GSO frequency band and in the NGSO
23 frequency spectrum” (Claim 7, emphasis added), ViaSat contends instead that
24 Jupiter [REDACTED]

1 [REDACTED] But ViaSat has not sought to construe claim 7 to change “and in the
2 NGSO frequency spectrum” to “and in the extended frequency spectrum,” nor
3 could this Court have done so under *Chef America/Haemonetics/Wellman* even if
4 asked.

5 Likewise, ViaSat cannot establish infringement of claim 8 under its literal
6 reading. Per claim 8, a “low-noise amplifier” is supposed to amplify “the
7 transmitted signals,” after which it passes those signals on to a frequency mixer.

8 [REDACTED]
9 [REDACTED]. And,
10 once again, even ViaSat does not believe this to be the case. In its infringement
11 contentions, ViaSat contends that the amplification occurs on signals received by
12 the satellite, not those transmitted by it:

13 [REDACTED]
14 [REDACTED]
15 [REDACTED]
16 Bageant Decl., Ex. F, at 4; *see also id.* at 5 ([REDACTED])

17 [REDACTED]⁶ Accordingly, there can be no material
18 factual dispute that Jupiter-1 fails to infringe claim 8 of the ‘827.

19 ⁶ ViaSat attempts here a clever argument to avoid the language problem with this
20 claim, asserting that the signals “received” by the satellite can likewise be described
21 as signals “transmitted” by the ground. But this ignores the language of the claim.
22 The first limitation of claim 8 refers to “the transmitted signals,” meaning that those
23 signals must have some antecedent basis. The only potential antecedent to the
24 “transmitted signals” in claim 8 occurs in claim 7, which describes a “transmitter
configured to transmit” signals. Accordingly, “the transmitted signals” in claim 8
must refer to the signals that were transmitted by the transmitter in claim 7. Indeed,
because claims 7 and 8 focus only the GSO satellite, they would necessarily refer to

1 **VI. Conclusion**

2 This Court should grant SS/L summary judgment that Claims 7, 8, and 9 of
3 the '827 are invalid as indefinite. Alternatively, this Court should grant SS/L
4 summary judgment of non-infringement of Claims 7, 8, and 9.

5 Dated: April 15, 2013

6 By: /s/ Amanda K. Bonn

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22 _____
23 (... cont'd)

24 signals coming from the ground as signals "received" by the satellite, not signals
"transmitted" to it.

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CERTIFICATE OF SERVICE

I hereby certify that, on April 15, 2013, I caused the foregoing **SPACE SYSTEMS/LORAL, LLC AND LORAL SPACE& COMMUNICATIONS INC.'S MOTION FOR SUMMARY JUDGMENT OF INVALIDITY OF THE ASSERTED CLAIMS OF VIASAT'S '827 PATENT, OR, IN THE ALTERNATIVE, OF NON-INFRINGEMENT** to be served on opposing counsel via the Court's CM/ECF system.

Dated: April 15, 2013, By: /s/ Amanda K. Bonn