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*Attorneys for Defendants
Space Systems/Loral, LLC (f/k/a Space Systems/Loral, Inc.) and
Loral Space & Communications Inc.*

UNITED STATES DISTRICT COURT

SOUTHERN DISTRICT OF CALIFORNIA

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

Plaintiffs,

vs.

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

Defendants.

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

Hon. Marilyn L. Huff

**DEFENDANT LORAL SPACE &
COMMUNICATIONS INC.'S ANSWER,
AFFIRMATIVE DEFENSES AND
COUNTERCLAIMS TO PLAINTIFFS'
THIRD AMENDED COMPLAINT FOR
PATENT INFRINGEMENT AND BREACH
OF CONTRACT**

DEMAND FOR JURY TRIAL

1 Loral Space & Communications Inc. (“Loral”) answers the Third Amended Complaint
2 (“TAC”) in this action, and asserts its affirmative defenses and counterclaims as follows.

3 **INTRODUCTION**

4 1. Admitted that this is an action for patent infringement and breach of contract.
5 In all other respects, denied.

6 2. Admitted that ViaSat received the 2011 American Technology Award in the
7 field of telecommunications. Admitted that ViaSat-1 had a design capacity in excess of 100
8 Gigabits per second. Loral is without knowledge whether this design capacity exceeded that of
9 any previous commercial satellite. Loral is without knowledge whether ViaSat-1’s capacity at
10 launch exceeded that of all then-existing commercial data satellites over North America
11 combined. Loral is without knowledge whether ViaSat-1’s cost to capacity ratio is one tenth of
12 any commercial satellite previously launched into orbit over North America. Denied that ViaSat-1
13 is solely “ViaSat’s design.” In all other respects, denied.

14 3. Admitted that ViaSat filed multiple patent applications beginning in September
15 2006. Denied that ViaSat initiated a bid process with Space Systems/Loral, Inc. (“SS/L”) and
16 Loral after filing patent applications in September 2006. Loral is without knowledge that ViaSat
17 initiated a bid process with any other manufacturer. Admitted that ViaSat conducted meetings
18 with SS/L concerning construction of a satellite after September 2006. Denied that ViaSat
19 disclosed the ViaSat-1 architecture to SS/L or Loral, or that it did so under the terms of any
20 confidentiality agreements. Loral is without knowledge that ViaSat disclosed the ViaSat-1
21 architecture to any other manufacturer or that it did so under the terms of any confidentiality
22 agreements. Admitted that SS/L filed a patent application on April 13, 2007. In all other respects,
23 denied.

24 4. Admitted that ViaSat selected SS/L to manufacture ViaSat-1 in early 2008 at a
25 cost in excess of \$200 million. Admitted that Loral received the rights to approximately 15% of
26 ViaSat-1’s capacity after launch. Denied that Mr. Targoff wrote a term sheet “describ[ing] and
27 embod[ying]” the “revised bid.” In all other respects, denied.
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1 17. Loral consents to venue in this judicial district, and admits that SS/L has done
2 business in this district. Admitted that some of the events identified in the TAC occurred in this
3 district. To the extent the remainder of this paragraph asserts any other allegations of fact, denied.

4 **FACTUAL BACKGROUND**

5 18. Admitted.

6 19. Loral is without knowledge of the specific facts alleged in this paragraph.

7 20. Loral is without knowledge about ViaSat's state of mind. In all other respects,
8 denied.

9 21. Denied.

10 22. Admitted that WildBlue-1 used gateways located within the same geographic
11 space as the user beams. Loral is without knowledge regarding the properties of Spaceway 3. In
12 all other respects, denied.

13 23. Admitted that the ViaSat-1 beam plan covers approximately 75% of the
14 population and 50% of the geography of the continental U.S. In all other respects, denied.

15 24. Loral is without knowledge about ViaSat's state of mind or what tools or
16 techniques ViaSat used to address interference related to placement of gateway beams near user
17 beams. Admitted that WildBlue-1 "has 100% user coverage of the continental U.S." and
18 "capacity in the range of 10 Gbps, (meaning 1-2 Mbps-type services to 400,000-600,000
19 customers)." Loral is without knowledge regarding the properties of Spaceway 3. Admitted that
20 "ViaSat-1 maintains coverage of approximately 75% of the continental U.S. population and
21 incurs higher levels of interference, but has capacity in excess of 100 Gbps (meaning 12 Mbps-
22 type services to in excess of one million customers)." Admitted that ViaSat filed an application
23 that resulted in United States Patent No. 8,107,875 ("the '875 patent"), entitled "Placement of
24 Gateways Near Service Beams," which issued on January 31, 2012. In all other respects, denied.
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1 25. Admitted that “The Federal Communications Commission (‘FCC’) had set
2 aside certain frequency spectrum primarily for use by a different type of satellite system (‘non-
3 geostationary satellites’ or ‘NGSO satellites’), but allowed for secondary use of this frequency
4 spectrum by geostationary satellites (‘GSO satellites’) . . . only if they did not interfere with
5 NGSO satellite system signals.” In all other respects, denied.

6 26. Loral is without knowledge regarding ViaSat’s state of mind. Admitted that
7 ViaSat-1 was designed to be geostationary. Loral is without knowledge regarding any
8 “technology that dynamically used the NGSO spectrum” developed by ViaSat. Admitted that
9 ViaSat filed a patent application for this technology. Admitted that ViaSat filed an application
10 that resulted in United States Patent No. 8,068,827 (“the ’827 patent”), entitled “Non-Interfering
11 Utilization of Non-Geostationary Satellite Frequency Band for Geostationary Satellite
12 Communication,” which was issued on November 29, 2011. In all other respects, denied.

13 27. Loral is without knowledge regarding ViaSat’s state of mind or what actions
14 ViaSat took to optimize satellite parameters. Admitted that ViaSat filed an application that
15 resulted in United States Patent No. 8,010,043 (“the ’043 patent”), entitled “Capacity
16 Maximization for a Unicast Spot Beam Satellite System,” which was issued on August 30, 2011.
17 In all other respects, denied.

18 28. Admitted that ViaSat developed a software tool called the “Capacity
19 Measurement Tool.” Admitted that “[n]o later than April 2008, ViaSat licensed its Capacity
20 Measurement Tool to SS/L solely for use with the ViaSat-1 satellite.” In all other respects,
21 denied.

22 29. Admitted that ViaSat-1 had a design capacity in excess of 100 Gigabits per
23 second. Loral is without knowledge whether this design capacity exceeded that of any previous
24 commercial satellite. Loral is without knowledge whether ViaSat-1’s capacity at launch exceeded
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1 that of all then-existing commercial data satellites over North America combined. Loral is
2 without knowledge whether ViaSat-1's cost to capacity ratio is one tenth of any commercial
3 satellite previously launched into orbit over North America. In all other respects, denied.

4 30. Admitted that ViaSat entered into non-disclosure agreements with SS/L. Loral
5 is without knowledge of any non-disclosure agreements entered into between ViaSat and any
6 other manufacturer. In all other respects, denied.

7 31. Admitted that ViaSat and SS/L entered into an NDA dated March 8, 2006, (the
8 "ViaSat NDA"). Admitted that the excerpted portions of the ViaSat NDA are accurately quoted
9 except where altered as indicated. In all other respects, denied.

10 32. Admitted that ViaSat engaged in detailed discussions with SS/L related to
11 ViaSat-1 in October 2006. In all other respects, denied.

12 33. Admitted that "[o]n April 13, 2007, Douglas Burr, an employee of SS/L, filed
13 United States Provisional Application No. 60/923,263, entitled 'Multi-Beam Satellite Network to
14 Maximize Bandwidth Utilization' ('the '263 application')." Admitted that "Mr. Burr was one of
15 the lead engineers from SS/L on the ViaSat-1 bid team and project." Admitted that Mr. Burr also
16 received emails and other disclosures from ViaSat in relation to ViaSat-1. In all other respects
17 denied.

18 34. Admitted.

19 35. Admitted.

20 36. Admitted that "[t]he '263 application further discloses spatial separation of user
21 beams and gateways, stating '[l]ocate user beams in the Eastern US and gateway beams in the
22 Western US,'" and provides the excerpted illustration. In all other respects, denied.

23 37. Admitted.

24 38. Denied.

1 39. Admitted that “in April 2007, Mr. Burr filed two additional related patent
2 applications on behalf of SS/L: (1) United States Patent Application No. 11/891,086, entitled
3 ‘Multi-Beam Satellite Network To Maximize Bandwidth Utilization’ (‘the ’086 application’) in
4 August 2007; and (2) United States Patent Application No. 12/861,702, entitled ‘Multi-Beam
5 Satellite Network To Maximize Bandwidth Utilization’ (‘the ’702 application’) in August 2010.”
6 Admitted that the ’086 application “issued to SS/L on September 7, 2012, as United States Patent
7 No. 7,792,070, (‘the ’070 patent’), entitled ‘Multi-beam Satellite Network to Maximize
8 Bandwidth Utilization[.]’” In all other respects, denied.

10 40. Loral is without knowledge about what specific negotiations ViaSat asserts it
11 conducted with SS/L and Loral. Admitted that ViaSat “awarded the contract to manufacture the
12 ViaSat-1 satellite to SS/L (the ‘Build Contract’).” Loral is without knowledge of ViaSat’s
13 awareness of the ’263 and ’086 applications. In all other respects, denied.

14 41. Denied ViaSat negotiated directly with Loral regarding terms and conditions of
15 the manufacturing services SS/L would provide to ViaSat. Denied that “[i]n this respect, ViaSat
16 dealt directly with Michael B. Targoff, Loral’s CEO.” Denied that “Mr. Targoff does not hold any
17 positions at SS/L.” Admitted that ViaSat “dealt with Arnold Friedman, Loral’s Vice President of
18 Satellite Marketing, who also acts as SS/L’s Senior Vice President of Worldwide Marketing &
19 Sales.” Loral is without knowledge of what ViaSat understood respecting Mr. Friedman’s actions.
20 Loral is without knowledge of which Loral Board member ViaSat refers to in this paragraph and
21 is therefore without knowledge of the participation of the unnamed Loral Board member. In all
22 other respects, denied.

23 42. Admitted that ViaSat communicated to SS/L that it intended to use another
24 manufacturer for ViaSat-1. Admitted that Mr. Targoff presented ViaSat with an offer regarding
25 ViaSat-1. Admitted that this offer proposed that Loral would pay for a portion of the ViaSat-1
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1 launch and insurance costs. Admitted that this revised offer provided, among other things, for
2 Loral to receive approximately 15% of ViaSat-1's capacity once it was in orbit. Loral is without
3 knowledge regarding ViaSat's reasons for deciding to proceed with SS/L for procurement of
4 ViaSat-1 or whether its subsequent negotiations with SS/L were exclusive. In all other respects,
5 denied.

6 43. Loral is without knowledge of which "specific terms of the Loral Proposal and
7 the ViaSat-1 manufacturing contract" ViaSat asserts it "negotiated directly with Mr. Targoff,
8 other Loral representatives, and SS/L[.]" The allegations regarding the effect of the Build
9 Contract terms are legal conclusions to which no response is required. Denied that "these
10 additional contracts were directly offered by Loral in order to induce ViaSat to select SS/L as its
11 satellite manufacturer." Denied that the Build Contract provisions regarding the use of
12 information are "[o]f particular relevance here." Admitted that the Build Contract was signed on
13 January 7, 2008. In all other respects, admitted.

14 44. The allegations regarding the effect of the Build Contract terms are legal
15 conclusions to which no response is required. SS/L is without knowledge as to the understanding
16 of ViaSat regarding any agreement in principal and on that basis denies that any such agreement
17 existed. Admitted that the excerpted portions of the Build Contract are accurately quoted except
18 where altered as indicated and except that the quoted portion of Article 39.2 states, in part, "to the
19 extent necessary to provide Work under this Contract." In all other respects, denied.

20 45. The allegations regarding the effect of the Build Contract terms are legal
21 conclusions to which no response is required. Admitted that the excerpted portions of the Build
22 Contract are accurately quoted except where altered as indicated and except that the quoted
23 portion of Section 22.2.3 states, in part, "solely for purposes of Contractor's measurement"
24 In all other respects, denied.
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1 46. The allegations regarding the effect of the Build Contract terms are legal
2 conclusions to which no response is required. Admitted that the excerpted portions of the Build
3 Contract are accurately quoted except where altered as indicated and except that the quoted
4 portion of Article 28.1 states, in part, “. . . that is disclosed or made available directly or
5 indirectly[.]” In all other respects, denied.

6 47. Admitted that Loral entered into an agreement with ViaSat “dated January 28,
7 2008 (the ‘Loral NDA’)” relating to ViaSat-1. The allegations regarding the effect of the Loral
8 NDA terms are legal conclusions to which no response is required. Admitted that the excerpted
9 portions of the Loral NDA are accurately quoted except where altered as indicated. In all other
10 respects, denied.

11 48. The allegations regarding the effect of the Loral NDA terms are legal
12 conclusions to which no response is required. Admitted that the excerpted portions of the Loral
13 NDA are accurately quoted except where altered as indicated and except that the quoted portion
14 of the Loral NDA states, in part, that the parties “may exchange certain information” In all
15 other respects, denied.

16 49. The allegations regarding the effect of the Loral NDA terms are legal
17 conclusions to which no response is required. In all other respects, denied.

18 50. The allegations regarding the effect of the Loral NDA terms are legal
19 conclusions to which no response is required. In all other respects, denied.

20 51. Admitted that on December 4, 2009, Loral and ViaSat entered into another
21 agreement. The allegations regarding the effect of this agreement are legal conclusions to which
22 no response is required. Admitted that the excerpted portions of this agreement are accurately
23 quoted except where altered as indicated. In all other respects, denied.

1 52. Loral is without knowledge regarding the activities of WildBlue engineers or
2 the capabilities of the technology WildBlue claims to have developed. In all other respects,
3 denied.

4 53. Loral is without knowledge as to the relation of the identified non-provisional
5 patent application to any technology developed by WildBlue. In all other respects, admitted.

6 54. Admitted that SS/L and WildBlue entered into a non-disclosure agreement
7 dated April 18, 2007 (the “WildBlue NDA”). The allegations regarding the effect of the WildBlue
8 NDA are legal conclusions to which no response is required. Admitted that the excerpted portions
9 of this agreement are accurately quoted except where altered as indicated. In all other respects,
10 denied. Admitted that “[o]n July 21, 2009, the parties amended the WildBlue NDA to extend its
11 term.” In all other respects, denied.
12

13 55. Denied.

14 56. Admitted that SS/L sold a high capacity Ka-band, bent-pipe satellite, named
15 “Jupiter,” to Hughes. Loral is without knowledge regarding the development activities of Hughes
16 with Boeing Satellite Systems and DirecTV. Admitted that on-board processing satellites are
17 “able to route data to specific gateways and users” and “to move some portion of the of the
18 satellite’s capacity from one area to another.” Admitted that “‘bent-pipe’ satellites, like ViaSat-1,
19 have fixed transmission links.” In all other respects, denied.
20

21 57. Admitted that Jupiter’s design includes spatial separation of some user beams
22 from some gateway terminals. In all other respects, denied.
23

24 58. Admitted that the figures respectively depict the placement of ViaSat-1’s and
25 Jupiter’s user beams and gateway beams. In all other respects, denied.

26 59. Admitted that Jupiter was the first satellite sold by SS/L to Hughes and was not
27 an on-board processed satellite. In all other respects, denied.
28

1 60. Denied.

2 61. Admitted that “[t]he U.S. Patent and Trademark Office published the
3 applications that issued as the Patents-in-Suit on the following dates: March 6, 2008 (’942
4 patent); January 22, 2009 (’043 patent); April 9, 2009 (’827 patent); and November 19, 2009
5 (’875 patent).” Admitted that on August 28, 2009, ViaSat identified the applications that issued as
6 the ’043, ’827, and ’875 patents to SS/L. The allegations regarding the effect of the Build
7 Contract are legal conclusions to which no response is required. Admitted that the excerpted
8 portions of this agreement are accurately quoted except where altered as indicated. Admitted that
9 SS/L knew of the existence of the patents in suit on February 21, 2012. In all other respects,
10 denied.
11

12 62. Admitted that the Jupiter satellite was launched on or about July 5, 2012 and is
13 operated by Hughes. Admitted that on August 28, 2009, ViaSat identified the applications that
14 issued as the ’043, ’827, and ’875 patents to SS/L. Admitted that SS/L knew of the existence of
15 the patents in suit on February 21, 2012. In all other respects, denied.
16

17 63. Admitted that on August 28, 2009, ViaSat identified the applications that issued
18 as the ’043, ’827, and ’875 patents to SS/L. Admitted that SS/L knew of the existence of the
19 patents in suit on February 21, 2012. In all other respects, denied.

20 64. Admitted that Loral and Mr. Friedman were involved in marketing SS/L to
21 ViaSat for ViaSat-1 and in negotiating the Build Contract. In all other respects, denied.
22

23 65. Denied that “Loral was directly involved in the sale process for two high
24 capacity broadband satellites to NBN Co.” that was announced on February 8, 2012. Denied that
25 “[i]n the lead up to NBN’s announcement, Mr. Targoff met directly with senior NBN executives
26 as part of the negotiations for the manufacturing deal.” Admitted that “it was reported in the
27 media that NBN sought reassurances from Loral, and, specifically, Mr. Targoff, that this lawsuit
28

would not jeopardize the manufacturing contracts” and that it was reported Mr. Targoff “provided such assurances to NBN.” In all other respects, denied.

66. Admitted that Loral has in the past offered performance guarantees for SS/L’s obligations under certain satellite construction contracts. Loral is without knowledge as to the effect of such offers on others. Denied that “Loral announced in its SEC Form 10-Q for the quarter ending March 31, 2012 that it had provided ‘a \$60 million performance guarantee that was provided through a surety company[.]’” Loral is without knowledge about ViaSat’s understanding of the subject matter of this announcement. In all other respects, denied.

67. Denied.

68. Admitted that Loral is a holding company with no operations. In all other respects, denied.

69. Admitted that Mr. Targoff gave interviews in February and April 2012 and that the quoted words appeared in accounts of those interviews. In all other respects, denied.

70. Denied.

71. Denied.

72. Loral is without knowledge as to ViaSat’s beliefs. In all other respects, denied.

FIRST CLAIM FOR RELIEF

(Alleged Infringement of Patent No. 8,107,875 by SS/L)

73. Loral incorporates by reference its preceding answers to paragraphs 1-72.

74. Denied that the ’875 patent was “duly and lawfully” issued. In all other respects, admitted.

75. Loral is without knowledge regarding the matters averred in this paragraph.

76. Denied.

77. Denied.

1 78. Denied.

2 79. Denied.

3 80. Denied.

4 81. Denied.

5 82. Denied.

6 **SECOND CLAIM FOR RELIEF**

7 **(Alleged Infringement of Patent No. 8,107,875 by Loral)**

8 83. Loral incorporates by reference its preceding answers to paragraphs 1-82.

9 84. Denied.

10 85. Denied.

11 86. Denied.

12 87. Denied.

13 88. Denied.

14 **THIRD CLAIM FOR RELIEF**

15 **(Alleged Infringement of Patent No. 8,010,043 by SS/L)**

16 89. Loral incorporates by reference its preceding answers to paragraphs 1-88.

17 90. Denied that the '043 patent was "duly and lawfully" issued. In all other
18 respects, admitted.

19 91. Loral is without knowledge regarding the matters averred in this paragraph.

20 92. Denied.

21 93. Denied.

22 94. Denied.

23 95. Denied.

24 96. Denied.

1 97. Denied.

2 98. Denied.

3 **FOURTH CLAIM FOR RELIEF**

4 **(Alleged Infringement of Patent No. 8,010,043 by Loral)**

5 99. Loral incorporates by reference its preceding answers to paragraphs 1-98.

6 100. Denied.

7 101. Denied.

8 102. Denied.

9 103. Denied.

10 104. Denied.

11 **FIFTH CLAIM FOR RELIEF**

12 **(Alleged Infringement of Patent No. 8,068,827 by SS/L)**

13 105. Loral incorporates by reference its preceding answers to paragraphs 1-104.

14 106. Denied that the '827 patent was "duly and lawfully" issued. In all other
15 respects, admitted.

16 107. Loral is without knowledge regarding the matters averred in this paragraph.

17 108. Denied.

18 109. Denied.

19 110. Denied.

20 111. Denied.

21 112. Denied.

22 113. Denied.

23 114. Denied.

SIXTH CLAIM FOR RELIEF

(Alleged Infringement of Patent No. 8,068,827 by Loral)

115. Loral incorporates by reference its preceding answers to paragraphs 1-114.

116. Denied.

117. Denied.

118. Denied.

119. Denied.

120. Denied.

SEVENTH CLAIM FOR RELIEF

(Alleged Infringement of Patent No. 7,773,942 by SS/L)

121. Loral incorporates by reference its preceding answers to paragraphs 1-120.

122. Denied that the '942 patent was "duly and lawfully" issued. In all other respects, admitted.

123. Loral is without knowledge regarding the matters averred in this paragraph.

124. Denied.

125. Denied.

126. Denied.

127. Denied.

128. Denied.

129. Denied.

130. Denied.

EIGHTH CLAIM FOR RELIEF

(Alleged Infringement of Patent No. 7,773,942 by Loral)

131. Loral incorporates by reference its preceding answers to paragraphs 1-130.

132. Denied.

133. Denied.

134. Denied.

135. Denied.

136. Denied.

NINTH CLAIM FOR RELIEF

(Alleged Breach of Contract by SS/L)

137. Loral incorporates by reference its preceding answers to paragraphs 1-136.

138. Admitted.

139. Admitted.

140. Admitted.

141. Admitted.

142. Admitted.

143. Denied.

144. Denied.

145. Denied.

146. Denied.

TENTH CLAIM FOR RELIEF

(Alleged Breach of Contract by Loral)

147. Loral incorporates by reference its preceding answers to paragraphs 1-146.

148. Admitted.

149. Admitted.

150. Denied.

151. Denied.

REQUEST FOR RELIEF

152. Loral denies that Plaintiffs are entitled to judgment in their favor or any form of relief.

DEFENSES

Without admitting any of Plaintiffs' allegations or conceding the burden of proof as to any issue found to be an element of the Third Amended Complaint, rather than an element of an affirmative defense, Loral alleges the following separate and independent affirmative defenses:

FIRST DEFENSE

153. Loral does not directly infringe and has not directly infringed, either literally or under the doctrine of equivalents, and does not indirectly infringe and has not indirectly infringed, by contributing to infringement or inducing infringement of, any valid and enforceable claim of any of the '875, '043, '827, or '942 patents.

SECOND DEFENSE

154. The claims of the patents-in-suit are invalid for failing to meet one or more of the requirements and/or conditions for patentability under Title 35 of the United States Code, including without limitation §§ 101, 102, 103, 112, and/or 116.

THIRD DEFENSE

155. The claims of the '875 and '827 patents are unenforceable under the doctrine of inequitable conduct, for the reasons set out in detail in Loral's counterclaims, below.

FOURTH DEFENSE

156. The '875, '043, '827, and '942 patents are unenforceable against Loral on grounds of equitable estoppel, laches, and/or waiver.

FIFTH DEFENSE

157. Plaintiffs' alleged damages are limited because they have not satisfied the requirements of obtaining damages under 35 U.S.C. § 287.

SIXTH DEFENSE

158. The claims of the asserted patents are unenforceable due to unclean hands.

SEVENTH DEFENSE

159. Plaintiffs cannot satisfy the requirements applicable to their request for injunctive relief and has an adequate remedy at law.

EIGHTH DEFENSE

160. Plaintiffs are estopped, based on statements, representations, and admissions made during prosecution of the applications that led to the '875, '043, '827, or '942 patents from asserting any interpretation of the claims of the '875, '043, '827, or '942 patents that would be broad enough to cover any of SS/L's products or methods alleged to infringe '875, '043, '827, or '942 patents, either literally or under the doctrine of equivalents.

NINTH DEFENSE

161. Plaintiffs are precluded from recovering costs pursuant to 35 U.S.C. § 288.

TENTH DEFENSE

162. Plaintiffs are not entitled to relief for products used or manufactured by or for the United States pursuant to 28 U.S.C. § 1498.

ELEVENTH DEFENSE

163. Plaintiffs lack standing to assert the '875, '043, '827, and '942 patents.

TWELFTH DEFENSE

164. Plaintiffs failed to mitigate their alleged damages, and, to the extent of such failure to mitigate, any damages awarded to Plaintiffs should be reduced accordingly.

THIRTEENTH DEFENSE

165. Plaintiffs' claims for breach of contract are barred by the doctrines of waiver, estoppel, and/or laches.

FOURTEENTH DEFENSE

166. Plaintiffs' claims for breach of contract are barred for failure to satisfy conditions precedent to relief.

FIFTEENTH DEFENSE

167. Loral intends to rely upon such other applicable defenses as may become apparent at subsequent stages of this action and hereby reserves the right to assert any such defenses.

COUNTERCLAIMS

Counterclaim plaintiff Loral alleges as follows:

INTRODUCTION

1. ViaSat and ViaSat Communications have sued SS/L and Loral for, among other things, patent infringement. In reality, however, it is ViaSat and ViaSat Communications, not SS/L or Loral, that are the infringers. Through these counterclaims, Loral seeks declaratory judgment relating to ViaSat's and ViaSat Communications' baseless assertions that SS/L has infringed ViaSat's and ViaSat Communication's patents.

2. SS/L is the leading commercial satellite provider in the world, with customers in the United States, Europe, Asia, Canada, Mexico, South America, and Australia. A longstanding innovator in satellite communications technology, SS/L developed and launched the world's first commercial satellite in 1960, has over 67 geostationary satellites currently in orbit, 24 under construction, and is the owner of over 160 U.S. patents on satellite communication and spacecraft technology.

1 3. ViaSat and ViaSat Communications are former customers of SS/L and sell
2 satellite and other digital communication products and services. ViaSat currently owns two
3 commercial satellites, both designed and manufactured by SS/L. In 2006, ViaSat initiated
4 discussions with SS/L regarding the design and manufacture of ViaSat-1, a high-capacity Ka-
5 band commercial satellite. In 2008, following those discussions, ViaSat contracted with SS/L to
6 manufacture ViaSat-1, which was successfully launched on October 19, 2011.

7
8 4. Prior to commissioning the ViaSat-1 satellite from SS/L, ViaSat had never
9 purchased or designed a satellite.¹ ViaSat selected SS/L to develop and build ViaSat-1 because of
10 SS/L's depth of experience, knowledge, and expertise in the design and manufacture of large,
11 commercial Ka-band satellites.

12 5. In its course of dealings with SS/L, ViaSat repeatedly made baseless and self-
13 aggrandizing claims regarding its purported intellectual property rights. ViaSat's complaint in the
14 Related Action is another step in this campaign, as ViaSat now claims to be the inventor and
15 "owner" of basic satellite design concepts incorporated into the design of ViaSat-1 that have been
16 in the public domain for years, or were developed by SS/L. In some cases, ViaSat even claims
17 fundamental principles of physics as its own "proprietary information." For example, ViaSat
18 falsely claims to have conceived of:

- 19
20 (a) spatial separation of gateway and user beams;
21 (b) frequency reuse;
22 (c) the unremarkable scientific fact that coverage can be sacrificed to increase
23 capacity (e.g., that a satellite with 60% coverage of the continental United
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27 ¹ In 2009, ViaSat acquired WildBlue Communications, Inc. ("WildBlue"), which had previously
28 purchased the "WildBlue-1" satellite from SS/L. WildBlue subsequently changed its name to
ViaSat Communications, Inc. So, ViaSat currently owns two SS/L manufactured satellites.

1 States can obtain greater capacity over the covered area than a satellite with
2 100% coverage of the continental United States);

3 (d) the use of backup gateways;

4 (e) maximizing capacity and minimizing cost-per-bit;

5 (f) designing a satellite where the signal-to-interference ratio C/I is less than
6 the signal-to-noise ratio C/N; and

7 (g) selectively disabling use of non-geostationary spectrum to avoid an
8 interference condition.
9

10 6. ViaSat seeks to preclude SS/L and its customers—and presumably the rest of
11 the satellite telecommunications industry—from using these technologies, which ViaSat certainly
12 did not invent.

13 7. ViaSat also claims to be the owner of patents covering some of these
14 technologies. These patents are both invalid and not nearly as broad as ViaSat claims. ViaSat
15 pursued numerous claims within its patent applications that were rejected by the United States
16 Patent and Trademark Office, and ViaSat was forced to amend its claims and specifications
17 multiple times in order to avoid prior art. Ultimately, ViaSat was able to obtain the issuance of
18 much narrower patent claims by, among other things, willfully withholding prior art from the
19 United States Patent and Trademark Office (USPTO).
20

21 8. By way of these counterclaims, Loral seeks declaratory judgment of non-
22 infringement, invalidity, and unenforceability of ViaSat's and ViaSat Communications' patents
23 pursuant to the Federal Patent Act, 35 U.S.C. § 101, et seq., 28 U.S.C. §§ 1338(a), 2201, and
24 2202, and the Declaratory Judgment Act, 28 U.S.C. § 2201 et seq.
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THE PARTIES

9. Loral is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 600 Third Avenue, New York, New York 10016.

10. SS/L is a limited liability company organized and existing under the laws of the State of Delaware, having a principal place of business at 3825 Fabian Way, Palo Alto, California 94303.

11. SS/L is the world leader in the manufacture of large commercial satellites. SS/L employs over 3,000 employees at its campus in Palo Alto, California, and has annual revenues exceeding \$1 billion.

12. ViaSat, Inc. is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 6155 El Camino Real, Carlsbad, California 92009.

13. ViaSat purportedly holds all right and title in the following patents: (1) U.S. Patent No. 8,068,827 (“the ’827 Patent”), (2) U.S. Patent No. 8,010,043 (“the ’043 Patent”), and (3) U.S. Patent No. 8,107,875 (“the ’875 Patent”). ViaSat accuses SS/L of infringing each of these patents.

14. ViaSat Communications, formerly known as WildBlue Communications, Inc., is a corporation organized and existing under the laws of the State of Delaware, having a principal place of business at 349 Inverness Drive South, Englewood, Colorado 80112.

15. ViaSat Communications purportedly holds all right and title in U.S. Patent No. 7,773,942 (“the ’942 patent”). ViaSat Communications accuses SS/L of infringing the ’942 patent.

JURISDICTION AND VENUE

16. This Court has subject matter jurisdiction over Loral's counterclaims for declaratory judgment of non-infringement, invalidity, and unenforceability of ViaSat's and ViaSat Communications' patents pursuant to the Federal Patent Act, 35 U.S.C. § 101, et seq., 28 U.S.C. §§ 1338(a), 2201, and 2202, and the Declaratory Judgment Act, 28 U.S.C. § 2201 et seq.

17. This Court has personal jurisdiction over ViaSat and ViaSat Communications, and venue is proper in this judicial district pursuant to 28 U.S.C. §§ 1391(b)-(c) and 1400(b), because ViaSat and ViaSat Communications filed their claims in this district, ViaSat is headquartered in this district, a substantial number of the acts giving rise to SS/L's claims occurred in this district, ViaSat and ViaSat Communications have committed acts of infringement in this district, and both ViaSat Communications regularly do business and solicit business, engage in other persistent courses of conduct, and/or derive substantial revenue from products and/or services provided to individuals in this State and district.

FACTUAL BACKGROUND**A. SS/L's Role as an Innovator in Satellite Technology**

18. SS/L is the leading designer, manufacturer, and integrator of geostationary commercial satellites in the world. SS/L designs and manufactures satellite systems for an international roster of commercial and government customers. SS/L's customers use its systems to deliver services such as fixed satellite services, direct-to-home broadcasting, mobile satellite services, broadband data distribution, wireless telephony, digital radio, digital mobile broadcasting, military communications, weather monitoring, and air traffic management.

19. Beginning with the world's first communications satellite launched in 1960, SS/L has manufactured more than 240 satellites, delivering a combined total of nearly two millennia of in-orbit service. Approximately 25 percent of the total U.S. Government leased

1 commercial transponders are carried on SS/L-built satellites. SS/L has been building Ka-band
2 payloads for four decades, and, since 2004, has captured approximately 40% of new commercial
3 awards for large geostationary satellites above 8 kW of end of life power.

4 20. SS/L's experience with Ka-band satellites for broadband communications was
5 instrumental in ViaSat's selection of SS/L to develop, manufacture, and launch ViaSat's first
6 satellite, ViaSat-1. In 2008, ViaSat and SS/L executed a "Build Contract" for ViaSat-1. ViaSat-1
7 was successfully launched in October 2011.

8
9 21. The design of a satellite is a collaborative process between the purchaser and
10 the manufacturer. The design of a satellite is dictated in substantial part by the particular business
11 requirements of the customer and the type of service being delivered by the satellite. There are
12 well-known key satellite parameters (such as number of beams, bandwidth per beam, frequency
13 reuse order, coverage requirements, G/T^2 , aggregate EIRP³, and aggregate $C/(N+I)^4$) that drive
14 the achievable throughput for a commercial satellite.

15
16 22. For example, a U.S. broadband provider with no existing satellites would
17 typically request full coverage of the contiguous United States ("CONUS coverage") in order to
18 address the full U.S. market. This results in capacity limitations, as the available power would be
19 spread over a large area and channels could not be re-used between users and gateways. In
20 contrast, an operator that already owns or leases another satellite and already provides full
21 CONUS coverage may elect partial CONUS coverage focused on more densely populated regions
22 of the United States that are not adequately covered by the existing satellite(s). Pursuant to well-
23

24 ² G/T or "Gain to Temperature" ratio is the standard measure of satellite uplink reception
sensitivity.

25 ³ EIRP or "Equivalent Isotropic Radiated Power" (aka "Effective Isotropic Radiated Power") is
26 the standard measure of downlink radiated power.

27 ⁴ Carrier to (Noise plus Interference) ratio is the standard measure of link quality. Both thermal
28 noise and externally-generated or self-generated interference degrade link performance and thus
determine system throughput. See further discussion in paragraph 24.

1 established principles of physics and fundamental concepts of satellite design, such a satellite will
2 generally be able to attain a much higher capacity over the covered area. The location of the
3 customer's gateways and user terminals will further influence satellite design and allow the
4 exploitation of well-established principles such as frequency re-use and spatial separation. In
5 other words, the capacity of any particular satellite is the generally foreseeable product of
6 customer requirements and design trade-offs.

7
8 23. For example, when ViaSat approached SS/L in 2006, ViaSat wished to procure
9 a satellite with both a 100 Gigabit per second ("Gbps") throughput capacity and full CONUS
10 coverage. SS/L told ViaSat that such a design was technically infeasible⁵ and proposed several
11 alternatives. Working collaboratively with ViaSat, SS/L was ultimately able to achieve more than
12 100 Gbps throughput for ViaSat-1 because ViaSat's business requirements allowed it to sacrifice
13 on other design parameters, in particular full CONUS coverage, and leverage well-known satellite
14 design techniques. While ViaSat's business needs were somewhat unique in 2006, the satellite
15 design principles used to accomplish them were not new.

16
17 24. In light of the fact that other satellite operators with existing satellites in orbit
18 are now focused on increasing capacity for customers in more densely populated areas, satellite
19 operators are demanding, and will continue to demand, satellites with similar—and likely much
20 greater—capacity than ViaSat-1. This is the consequence of changing market conditions and
21 business needs, not any technological innovation by ViaSat.

22
23
24
25 ⁵ Full CONUS coverage works against high capacity for two reasons. First, the available power
26 must be spread across a large area, resulting in signal degradation (the "N" term described above
27 would become dominant, as "C" is reduced). Second, unless the operator is able to locate the
28 gateway terminals outside of the United States (which raises regulatory issues) it means that the
gateways and user terminals must share spectrum, further reducing the capacity.

1 **B. The SS/L-ViaSat Relationship and the Parties' Agreements**

2 25. ViaSat and SS/L began discussions regarding ViaSat-1 in 2006. In the Summer
3 of 2006, ViaSat's Chief Executive, Mark Dankberg, told SS/L that ViaSat was interested in
4 acquiring a satellite with 10 times the capacity of WildBlue-1, a satellite that SS/L designed and
5 manufactured for WildBlue Communications, Inc. (now known as ViaSat Communications, Inc.,
6 having been acquired by ViaSat in 2009).⁶ Throughout the Fall of 2006, SS/L developed a
7 variety of design proposals for ViaSat-1 that were intended to meet ViaSat's then-articulated
8 business needs.

9
10 26. SS/L communicated its design concepts to ViaSat throughout the Fall of 2006,
11 culminating in a presentation given to ViaSat on October 6, 2006. That presentation was
12 designated as **proprietary to SS/L** under the parties' non-disclosure agreement, and discussed the
13 use of partial CONUS coverage, spatial separation, and the reuse of channels characterized by
14 frequency and polarization (or "color") on ViaSat-1—concepts that ViaSat now claims it
15 invented.

16
17 27. During the remainder of 2006 and throughout 2007, SS/L refined its design
18 proposal for ViaSat-1. SS/L made further presentations to ViaSat on November 3, 2006,
19 November 14, 2006, January 26, 2007, August 31, 2007, October 2, 2007, and November 7,
20 2007. Those presentations reflected the design of ViaSat-1, and each contained a written legend
21 designating the information as proprietary to SS/L under the applicable non-disclosure
22 agreements between ViaSat and SS/L.

23
24 28. On January 7, 2008, the parties entered into the Build Contract for ViaSat-1.
25 The Build Contract provides that all SS/L intellectual property, including any improvements

26
27 ⁶ WildBlue-1 was not designed to maximize capacity. SS/L had at the time it built WildBlue-1
28 already manufactured a satellite with five times the capacity of WildBlue-1 with different
geographic coverage and spectrum requirements.

thereon by either party, belong to SS/L: “‘Contractor Intellectual Property’ shall mean such Intellectual Property owned by Contractor and provided to Purchaser related to this Contract (before or after EDC) and all Intellectual Property Rights related thereto. Contractor Intellectual Property shall also include any derivatives, improvements, or modifications made by Purchaser or Contractor thereto, except for derivatives, improvements, or modifications that can be used by Purchaser without infringing or violating the pre-existing Intellectual Property Rights of Contractor.” Paragraph 39.1 of the Build Contract further provides that, “[s]ubject to the licenses granted to Purchaser in this Article 39 of this Contract,” Contractor shall own all Intellectual Property Rights, title and interest in all ‘Contractor Intellectual Property.’”

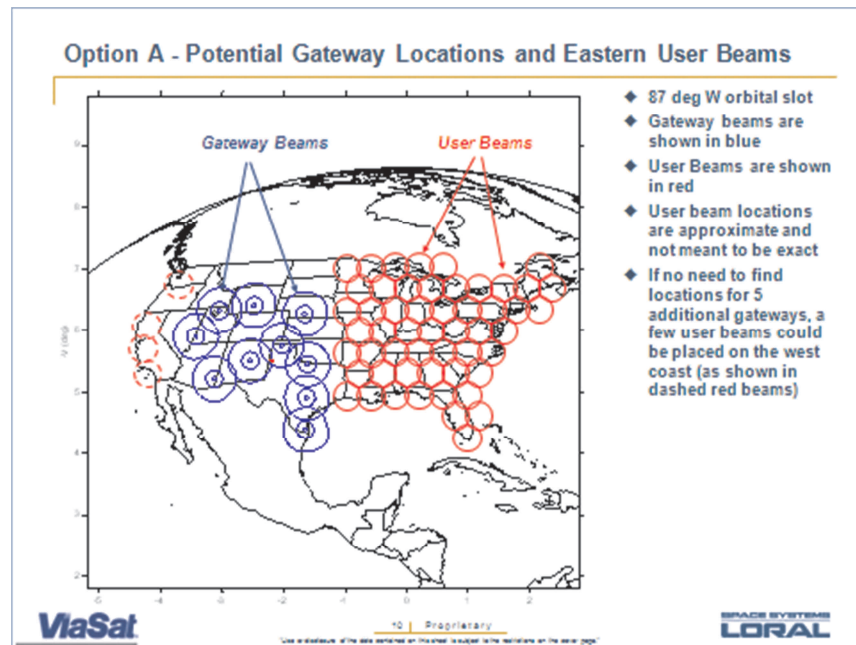
C. ViaSat’s Efforts to Claim Satellite Design Concepts of Others as Its Own

29. Since 2006, ViaSat has repeatedly claimed the ideas of others—including SS/L—as its own intellectual property. For example, ViaSat has improperly claimed ownership of, and purportedly filed a patent application on, a C/I test developed by SS/L that was part of the In-Orbit Test (“IOT”) plan for ViaSat-1. On January 8, 2010, ViaSat presented SS/L with its proposed methodology for calculating C/I. SS/L had previously advised ViaSat on multiple occasions dating back to May 2009 that this methodology was neither feasible nor accurate. On February 5, 2010, SS/L engineers again explained to ViaSat that its approach was infeasible. SS/L then proposed a different C/I test method to ViaSat. Finally convinced that its own approach was not viable and that SS/L’s was superior, ViaSat abandoned its C/I test method and adopted SS/L’s C/I test method. The September 2010 IOT Plan shows conclusively that ViaSat abandoned its infeasible C/I test method and adopted the test method proposed by SS/L.

30. Despite this clear and unambiguous history, ViaSat has asserted in written correspondence that the C/I test method developed by SS/L is ViaSat’s proprietary information, that ViaSat has filed a patent application for it, and that SS/L is prohibited from using this test

method for any SS/L programs without a license from ViaSat. ViaSat has ignored written requests from SS/L for a copy of the patent application and refuses to provide it.

31. ViaSat similarly claims that SS/L breached a non-disclosure agreement with ViaSat in its application for U.S. Patent No. 7,792,070 (the “Burr Patent”), which is assigned to SS/L. That application includes concepts and beam maps that are virtually identical to those that SS/L presented to ViaSat in the October 6, 2006 Presentation referenced above, which were **conceived by SS/L and designated as “proprietary to SS/L.”** For example, Page 10 of the October 6, 2006 SS/L Presentation depicted the separation of user and gateway beams:



32. Incredibly, ViaSat now claims SS/L’s idea for beam separation as its own. In the Related Action, ViaSat claims that SS/L breached a non-disclosure agreement with ViaSat by publishing SS/L’s own designs from presentations marked “proprietary to SS/L” in the application for the Burr Patent.⁷

⁷ SS/L continues to investigate the extent to which ViaSat improperly claimed SS/L’s ideas as its

1 33. ViaSat similarly claims ownership over numerous other concepts that were
2 either in the public domain or independently developed by SS/L, including: (1) spatial separation
3 and color reuse, *see* ViaSat First Amended Complaint in the Related Action (“ViaSat FAC”) ¶¶
4 22-24; (2) an NGSO switch, *see* ViaSat FAC ¶¶ 25-26; (3) a purported capacity maximization
5 tool, *see* ViaSat FAC ¶ 27; and (4) the use of a “utility gateway backup,” *see* ViaSat FAC ¶¶ 45-
6 46. ViaSat also claims that it has patented these design concepts.

7 34. ViaSat did not invent any of the concepts that it claims. For example, ViaSat
8 describes the NGSO switch it claims to have invented and which is purportedly embodied in the
9 ’827 Patent as follows: “ViaSat developed innovative technology that dynamically used the
10 NGSO spectrum by enabling a GSO satellite, such as ViaSat-1, to transmit and receive in both the
11 standard GSO and NGSO frequency blocks during periods of non-interference with NGSO
12 satellite signals. The ViaSat technology automatically ceases any potentially interfering
13 transmissions in a beam whenever an NGSO satellite comes into range of interference while
14 continuing to operate in the standard GSO frequencies. During such an interference event, each of
15 the beams on the satellite continues to operate, although at lower capacity levels.”

16 35. This type of bandwidth switching technology is neither novel nor new. The use
17 of multiple bandwidths in a single satellite and switching between them has been done for
18 decades, and SS/L has implemented bandwidth-switching technology in multiple satellites prior
19 to ViaSat-1.

20 36. Indeed, when the FCC announced rules in the mid-1990s for preventing NGSO
21 interference, satellite designers developed several techniques to address the new rules. One
22 obvious solution was to have satellites that utilize both GSO and NGSO spectrum switch off the
23
24
25
26 _____
27 (... cont’d)
28 own in its patent applications, and reserves the right to amend these counterclaims following that investigation.

1 use of NGSO spectrum during periods of interference while continuing to operate on GSO
2 spectrum. In 1997, for example, Lockheed Martin filed an FCC application for the Astrolink-
3 Phase II system⁸ that used this very technology. The FCC application describes: (a) the primary
4 use of GSO spectrum and the secondary use of NGSO spectrum, (b) temporarily ceasing
5 operation of the NGSO spectrum during periods of NGSO interference, and (c) “using orbit data
6 provided by the relevant NGSO system operators . . . for accurate prediction of interference
7 events, and thereby determine the times at which cessation of emissions or diversity switching
8 must occur.”
9

10 37. ViaSat was fully aware of Astrolink’s functionality. In 2000, ViaSat entered
11 into contracts with Astrolink to produce the user terminals for the Astrolink-Phase II system and
12 to resell the Astrolink-Phase II services. Upon information and belief, Mark Miller—ViaSat’s
13 Chief Technology Officer and a named inventor on the ’827 Patent—worked on the AstroLink-
14 Phase II project and reviewed the specifications for the system. Indeed, Miller at least once
15 personally affirmed that the ViaSat terminals were in compliance with the Astrolink-Phase II
16 specification. Because the NGSO switching was managed from ground stations, ViaSat and
17 Miller were necessarily aware of Astrolink’s use of NGSO switching technology.
18

19 38. Nonetheless, in October 2008—eleven years after the filing of the FCC
20 application for the Astrolink-Phase II system—Miller and ViaSat filed the patent application for
21 the ’827 Patent claiming this technology as a ViaSat invention. ViaSat and Miller did not disclose
22 the Astrolink-Phase II system to the USPTO and instead fraudulently withheld it in breach of the
23 duty of candor it owed to the USPTO.
24

25
26 ⁸ *Application of Lockheed Martin Corporation for Authority to Launch and Operate Astrolink-*
27 *Phase II, an Expansion of the Astrolink Ka-band Satellite System* (“Astrolink Application”), filed
28 December 22, 1997.

1 39. In addition to disclosing the NGSO switching that ViaSat falsely claims to have
2 invented, the Astrolink-Phase II FCC application further disclosed frequency and polarization re-
3 use between gateway and user terminals. In prosecuting the '875 Patent, ViaSat and Miller
4 amended the claims in the application to require polarization reuse in order to try to avoid certain
5 prior art cited by the USPTO. ViaSat and Miller argued to the USPTO that the prior art did not
6 disclose frequency and polarization reuse between gateway and user terminals, and the USPTO
7 accepted this argument. Upon information and belief, Miller and ViaSat knowingly withheld the
8 Astrolink-Phase II system from the USPTO despite their actual knowledge of both its existence
9 and materiality to the application for the '875 Patent.
10

11 40. The Astrolink-Phase II system is just one of myriad examples of the prior art
12 that exists for ViaSat's and ViaSat Communications' patents. Numerous FCC applications,
13 industry conference papers and presentations, and even basic reference materials such as the
14 Communications Satellite Handbook (Gordon & Morgan, 1989) disclose the same satellite design
15 principles that ViaSat and ViaSat Communications now claim as their own. For example, pages
16 108-111 of the Communications Satellite Handbook (Gordon & Morgan, 1989) teach that
17 frequency and polarization re-use are possible between non-proximate satellite spot beams
18 whereas frequency and polarization re-use is not always feasible between proximate satellite spot
19 beams. These fundamental principles of configuring satellite spot beams are central to the claims
20 of the '875 Patent, and should have been disclosed to the USPTO. ViaSat and ViaSat
21 Communications either knowingly withheld these references from the USPTO, or they were not
22 aware of them due to their lack of experience in satellite design.
23
24

25
26 **FIRST CLAIM FOR RELIEF**

27 **(Declaratory Judgment of Non-Infringement of all Claims of the '875 Patent)**
28

1 41. Loral incorporates by reference the preceding averments set forth in paragraphs
2 1 through 40.

3 42. On January 31, 2012, the '875 Patent was issued by the United States Patent
4 and Trademark Office. A true and correct copy of the '875 Patent is attached to Plaintiffs' Third
5 Amended Complaint.

6 43. ViaSat claims to be the legal owner of all rights, interest, and title in the '875
7 Patent.

8 44. There exists an actual and justiciable controversy within the meaning of 28
9 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the alleged infringement of
10 the '875 Patent.

11 45. Loral has not infringed, and is not infringing the '875 Patent, directly,
12 indirectly, or jointly, either literally or under the doctrine of equivalents, willfully, or otherwise.

13 46. Loral is entitled to a declaratory judgment that it has not infringed and is not
14 infringing the '875 Patent.
15

16
17 **SECOND CLAIM FOR RELIEF**

18 **(Declaratory Judgment of Non-Infringement of all Claims of the '043 Patent)**

19 47. Loral incorporates by reference the preceding averments set forth in paragraphs
20 1 through 46.

21 48. On August 30, 2011, the '043 Patent was issued by the United States Patent and
22 Trademark Office. A true and correct copy of the '043 Patent is attached to Plaintiffs' Third
23 Amended Complaint.

24 49. ViaSat claims to be the legal owner of all rights, interest, and title in the '043
25 Patent.
26
27
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1 50. There exists an actual and justiciable controversy within the meaning of 28
2 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the alleged infringement of
3 the '043 Patent.

4 51. Loral has not infringed, and is not infringing the '043 Patent, directly,
5 indirectly, or jointly, either literally or under the doctrine of equivalents, willfully, or otherwise.

6 52. Loral is entitled to a declaratory judgment that it has not infringed and is not
7 infringing the '043 Patent.

8
9 **THIRD CLAIM FOR RELIEF**

10 **(Declaratory Judgment of Non-Infringement of all Claims of the '827 Patent)**

11 53. Loral incorporates by reference the preceding averments set forth in paragraphs
12 1 through 52.

13 54. On November 29, 2011, the '827 Patent was issued by the United States Patent
14 and Trademark Office. A true and correct copy of the '827 Patent is to Plaintiffs' Third Amended
15 Complaint.

16 55. ViaSat claims to be the legal owner of all rights, interest, and title in the '827
17 Patent.

18 56. There exists an actual and justiciable controversy within the meaning of 28
19 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the alleged infringement of
20 the '827 Patent.

21 57. Loral has not infringed, and is not infringing the '827 Patent, directly,
22 indirectly, or jointly, either literally or under the doctrine of equivalents, willfully, or otherwise.

23 58. Loral is entitled to a declaratory judgment that it has not infringed and is not
24 infringing the '827 Patent.

FOURTH CLAIM FOR RELIEF

(Declaratory Judgment of Non-Infringement of all Claims of the '942 Patent)

59. Loral incorporates by reference the preceding averments set forth in paragraphs 1 through 58.

60. On August 10, 2010, the '942 Patent was issued by the United States Patent and Trademark Office. A true and correct copy of the '942 Patent is attached to Plaintiffs' Third Amended Complaint.

61. ViaSat Communications claims to be the legal owner of all rights, interest, and title in the '942 Patent.

62. There exists an actual and justiciable controversy within the meaning of 28 U.S.C. §§ 2201 and 2202 between Loral and ViaSat Communications with respect to the alleged infringement of the '942 Patent.

63. Loral has not infringed, and is not infringing the '942 Patent, directly, indirectly, or jointly, either literally or under the doctrine of equivalents, willfully, or otherwise.

64. Loral is entitled to a declaratory judgment that it has not infringed and is not infringing the '942 Patent.

FIFTH CLAIM FOR RELIEF

(Declaratory Judgment of Invalidity of all Claims of the '875 Patent)

65. Loral incorporates by reference the preceding averments set forth in paragraphs 1 through 64.

66. On January 31, 2012, the '875 Patent was issued by the United States Patent and Trademark Office.

67. ViaSat claims to be the legal owner of all rights, interest, and title in the '875 Patent.

1 68. There exists an actual and justiciable controversy within the meaning of 28
2 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the validity of the '875
3 Patent.

4 69. Loral is not infringing, and has not infringed, any valid claim of the '875 Patent.

5 70. Loral is entitled to a declaratory judgment that all claims of the '875 Patent are
6 invalid under 35 U.S.C. §§ 101, 102, 103 and/or 112.
7

8
9 **SIXTH CLAIM FOR RELIEF**

10 **(Declaratory Judgment of Invalidity of all Claims of the '043 Patent)**

11 71. Loral incorporates by reference the preceding averments set forth in paragraphs
12 1 through 70.

13 72. On August 30, 2011, the '043 Patent was issued by the United States Patent and
14 Trademark Office.

15 73. ViaSat claims to be the legal owner of all rights, interest, and title in the '043
16 Patent.
17

18 74. There exists an actual and justiciable controversy within the meaning of 28
19 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the validity of the '043
20 Patent.
21

22 75. Loral is not infringing, and has not infringed, any valid claim of the '043 Patent.

23 76. Loral is entitled to a declaratory judgment that all claims of the '043 Patent are
24 invalid under 35 U.S.C. §§ 101, 102, 103 and/or 112.
25

26 **SEVENTH CLAIM FOR RELIEF**

27 **(Declaratory Judgment of Invalidity of all Claims of the '827 Patent)**
28

1 77. Loral incorporates by reference the preceding averments set forth in paragraphs
2 1 through 76.

3 78. On November 29, 2011, the '827 Patent was issued by the United States Patent
4 and Trademark Office.

5 79. ViaSat claims to be the legal owner of all rights, interest, and title in the '827
6 Patent.

7 80. There exists an actual and justiciable controversy within the meaning of 28
8 U.S.C. §§ 2201 and 2202 between Loral and ViaSat with respect to the validity of the '827
9 Patent.
10

11 81. Loral is not infringing, and has not infringed, any valid claim of the '827 Patent.

12 82. Loral is entitled to a declaratory judgment that all claims of the '827 Patent are
13 invalid under 35 U.S.C. §§ 101, 102, 103 and/or 112.
14

15 **EIGHTH CLAIM FOR RELIEF**

16 **(Declaratory Judgment of Invalidity of all Claims of the '942 Patent)**

17 83. Loral incorporates by reference the preceding averments set forth in paragraphs
18 1 through 82.

19 84. On August 10, 2010, the '942 Patent was issued by the United States Patent and
20 Trademark Office.

21 85. ViaSat Communications claims to be the legal owner of all rights, interest, and
22 title in the '827 Patent.

23 86. There exists an actual and justiciable controversy within the meaning of 28
24 U.S.C. §§ 2201 and 2202 between Loral and ViaSat Communications with respect to the validity
25 of the '942 Patent.
26

27 87. Loral is not infringing, and has not infringed, any valid claim of the '842 Patent.
28

1 88. Loral is entitled to a declaratory judgment that all claims of the '942 Patent are
2 invalid under 35 U.S.C. §§ 101, 102, 103 and/or 112.

3 **NINTH CLAIM FOR RELIEF**

4 **(Declaratory Judgment of Unenforceability Due to Inequitable Conduct for all Claims of**
5 **the '827 Patent)**

6 89. Loral incorporates by reference the preceding averments set forth in paragraphs
7 1 through 88.

8 90. Loral is informed and believes, and, on that basis, alleges that the '827 Patent is
9 unenforceable due to inequitable conduct by the named inventor Mark Miller in failing to
10 discharge his duty of candor to the USPTO during the prosecution of the applications leading to
11 the issuance of the '827 Patent.

12 91. The inventor Miller prosecuted the '827 with intent to deceive the USPTO and
13 knowingly withheld material information during prosecution of the '827 Patent. Upon
14 information and belief, inventor Miller was aware of prior art references that he knew to be
15 material to the prosecution of the patent application leading to the '827 Patent, yet withheld the
16 references from the USPTO.

17 92. The named inventors on the '827 Patent are Mark Miller and John Tchorz.
18 Miller is one of the founders of ViaSat and has worked at ViaSat since 1986. Upon information
19 and belief, Miller is, and has been since 1986, the Chief Technology Officer at ViaSat.

20 93. The '827 Patent discloses a satellite utilizing both GSO and NGSO spectrum
21 that temporarily ceases use of NGSO spectrum during periods of NGSO interference. In its
22 complaint, ViaSat describes the technology as follows: "ViaSat developed innovative technology
23 that dynamically used the NGSO spectrum by enabling a GSO satellite, such as ViaSat-1, to
24 transmit and receive in both the standard GSO and NGSO frequency blocks during periods of
25 non-interference with NGSO satellite signals. The ViaSat technology automatically ceases any
26
27
28

1 potentially interfering transmissions in a beam whenever an NGSO satellite comes into range of
2 interference while continuing to operate in the standard GSO frequencies. During such an
3 interference event, each of the beams on the satellite continues to operate, although at lower
4 capacity levels.”

5 94. On December 22, 1997, Lockheed Martin filed an FCC application for the
6 Astrolink-Phase II system. The FCC application discloses satellites utilizing GSO spectrum on a
7 primary basis and NGSO spectrum on a secondary basis, with a switching mechanism that will
8 temporarily cease operation of the NGSO band during periods of in-line interference with other
9 NGSO satellites, as determined by ground stations that monitor interference events. *See*
10 December 22, 1997 Application of Lockheed Martin Corporation to Launch and Operate a Global
11 Satellite Communications System in Geostationary Orbit – Stop Code 0800 (“Astrolink FCC
12 Application”) at pp. 32-38 & 95-101.
13

14 95. On October 20, 2000, Astrolink and ViaSat entered into a contract for ViaSat to
15 design, develop and produce User Terminals for the Astrolink-Phase II system. That same day,
16 Astrolink and ViaSat entered into a Memorandum of Agreement allowing ViaSat to sell satellite
17 services (e.g., access, transport, application and content) on each of Astrolink’s first four
18 satellites.
19

20 96. Upon information and belief, Miller was involved in the Astrolink project and
21 reviewed the specifications for the Astrolink-Phase II system. Specifically, in February 2001,
22 Miller told Astrolink that ViaSat’s terminals were compliant with all of the requirements in
23 Astrolink’s specification. Those specifications included the SD-1000 Astrolink Concept of
24 Operations. Upon information and belief, Miller was therefore aware of the NGSO switching
25 capability of the Astrolink-Phase II system by no later than February 2001.
26
27
28

1 97. On October 27, 2008, Miller executed a declaration under 37 CFR 1.63
2 swearing under oath that he believed he was “the original and first inventor(s) of the subject
3 matter which is claimed” and acknowledging his duty to disclose all information known by him to
4 be material to patentability. Nonetheless, Miller knowingly withheld the Astrolink-Phase II
5 system from the USPTO, despite his knowledge of its materiality.

6 98. On April 3, 2009, Miller, through his attorneys, filed a supplemental disclosure
7 statement. Again, Miller knowingly withheld the Astrolink-Phase II system from the USPTO,
8 despite his knowledge of its materiality.

9 99. This intentional withholding of material references constitutes inequitable
10 conduct and renders the ’827 Patent unenforceable.

11
12 **TENTH CLAIM FOR RELIEF**

13 **(Declaratory Judgment of Unenforceability Due to Inequitable Conduct for all Claims of**
14 **the ’875 Patent)**

15 100. Loral incorporates by reference the preceding averments set forth in paragraphs
16 1 through 99.

17 101. Loral is informed and believes, and, on that basis, alleges that at least the ’875
18 Patent is unenforceable due to inequitable conduct by the named inventor Mark Miller, claimed
19 co-inventor Mark Dankberg, and/or ViaSat’s patent attorneys in failing to discharge their duty of
20 candor to the USPTO during the prosecution of the applications leading to the issuance of the
21 ’875 Patent.

22 102. The inventor Miller, the purported inventor Dankberg, and/or ViaSat’s
23 attorneys who prosecuted this patent, including at least Mymy Henderson and Kelvin Catmull,
24 knowingly withheld material information from the USPTO during prosecution of the ’875 Patent
25 with the intent to deceive the USPTO.
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1 103. The '875 Patent issued from Application 12/411,315 ("the '315 Application").
2 The '315 Application purports to be a Continuation-in-Part of Application PCT/US2007/079567
3 ("the '567 Application").

4 104. The named inventor on the '875 Patent is Mark Miller. However, on January
5 31, 2012, ViaSat filed with the USTPO a request to amend inventorship on the '875 Patent, to add
6 as a co-inventor Mark Dankberg.

7 105. The prosecuting attorneys for the '315 Application were the Kilpatrick,
8 Townsend, & Stockton law firm.

9 106. At the time the '875 Patent was being prosecuted, ViaSat was also prosecuting a
10 parallel patent application, Application 12/411,704 (the "'704 Application"). The '704
11 Application also purports to claim priority to the '567 Application.

12 107. The named inventors on the '704 Application are Robert Wilson and Mark
13 Dankberg.

14 108. The prosecuting attorneys for the '704 Application were the Kilpatrick,
15 Townsend, & Stockton law firm.

16 109. On December 14, 2011, the USPTO issued a final rejection of the '704
17 Application. In finally rejecting the '704 Application, the USPTO noted that the subject claims
18 were obvious in light of, among other references, U.S. Patent No. 5,473,601 to Rosen ("Rosen").

19 110. The USPTO noted in discussing Rosen that Rosen taught the use of a satellite
20 communications system with partially overlapping frequencies and a common polarization
21 ("Karabinis, Patterson, and Wolcott, in combination, fail to teach having at least partially
22 overlapping frequencies and a same polarization. However, Rosen discloses such feature (see
23 column 3 and lines 51-59).").
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1 111. On December 16, 2011, the USPTO issued a Notice of Allowance on the '315
2 Application, which later issued as the '875 Patent.

3 112. In the Notice of Allowance for the '315 Application, the USPTO cited as a
4 reason for allowance certain remarks that ViaSat had made in its October 28, 2011, submission to
5 the USPTO. ("The applicant's Remarks, filed on 28 Oct, 2011, have been carefully reviewed with
6 updated search. Consequently, reasons for allowance of claims 1-11, 13-25, and 28-32 are set
7 forth in according to the applicant's remarks stated on pages 10-11.").

8 113. On pages 10 and 11 of ViaSat's October 28, 2011, submission in the '315
9 Application, ViaSat argued that the claims of the '875 Patent were novel because no reference
10 disclosed a satellite communications system's reuse of the same color, which consists of
11 frequency and polarization: "As discussed in the interview, the cited portions of Wolcott and
12 Patterson, alone or in combination, do not appear to disclose a set of colors allocated to a service
13 beam including at least one same color allocated to at least one feeder beam, where the service
14 beam is associated with a service beam coverage area not proximate to a feeder beam coverage
15 area associated with the at least one feeder beam, and where signals associated with the same
16 color have the same frequency band and polarization."

17 114. Rosen is thus highly material to the '875 Patent. In allowing the '315
18 Application on December 16, 2011, the USPTO agreed with ViaSat that the prior art, including
19 the Patterson and Walcott references, failed to disclose a satellite communications system with
20 reuse of the same frequency and polarization.

21 115. Mark Miller, Mark Dankberg, and ViaSat's patent attorneys never disclosed or
22 discussed the Rosen reference in the prosecution of the '875 Patent. Nor did they notify the
23 USPTO of the rejection of the '704 Application.
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1 116. Following receipt of the '315 Application Notice of Allowance, ViaSat paid the
2 issue fee for the '875 Application on December 19, 2011.

3 117. Despite the Issuance of the Notice of Allowance on the '315 Application on
4 December 16, 2011, the inventor Miller, the purported inventor Dankberg, and ViaSat's attorneys
5 who prosecuted this patent continued to have an obligation to bring to the USPTO's attention
6 material prior art.

7 118. That the inventor Miller, the purported inventor Dankberg, and ViaSat's
8 attorneys who prosecuted this patent understood this obligation is confirmed by the fact that,
9 concurrent with the payment of the issue fee on December 19, 2011, ViaSat submitted an
10 Information Disclosure Statement.

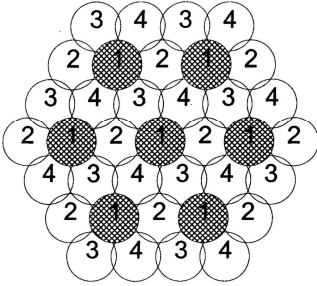
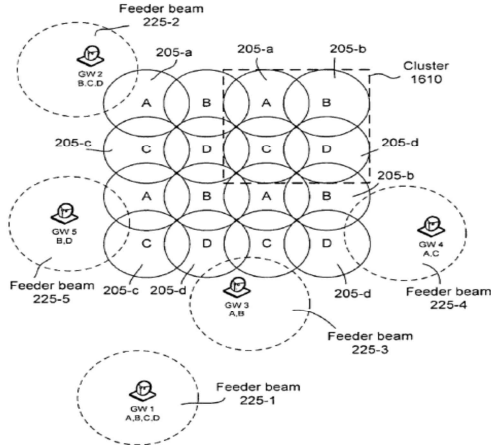
11 119. The December 19, 2011, Information Disclosure Statement disclosed to the
12 USPTO art and prosecution decisions in two other ViaSat patent applications, US Patent
13 Application No. 12/406,870 and US Patent Application No. 12/406,880. But, ViaSat never
14 disclosed the Rosen reference or the final rejection of the '704 Application.
15 disclosed the Rosen reference or the final rejection of the '704 Application.

16 120. This intentional withholding of material references constitutes inequitable
17 conduct and renders the '875 Patent unenforceable.

18 121. In addition, the Astrolink-Phase II system constituted material prior art that
19 Miller knowingly withheld from the USPTO. The Astrolink-Phase II FCC filing discloses both
20 frequency and polarization reuse: "Each AstroLink-Phase II satellite will support up to 24
21 simultaneously active 125 megahertz gateway/user channels. Lockheed Martin proposes to
22 operate these gateway/user links in the 18.3-18.8 GHz band (space-to-Earth) and in the 28.35-
23 28.6 GHz and 29.25-29.5 GHz bands (Earth-to-space). The 500 megahertz downlink band would
24 be subdivided into four 125 megahertz channels, while each of the 250 megahertz uplink bands
25 would be divided into two 125 megahertz channels. To facilitate sharing these bands with other
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services, only one polarization would be used in each gateway/user beam. Thus, a total frequency reuse of up to six times can be achieved for gateway/user beams.” (emphasis added)

122. The Astrolink FCC application discloses a four color re-use pattern being employed that is substantively identical to that depicted in the '875 Patent:

Astrolink FCC Application from 1997	The '875 Patent
Figure 4.4-1 - Frequency Re-Use Pattern 	 FIG. 16

123. Understanding the frequencies and color reuse patterns is essential for the development and operation of ground terminals and, upon information, would be included in the Concept of Operations document that Miller indicated he had reviewed in 2001. Accordingly, upon information and belief, ViaSat and Miller were fully aware of Astrolink's use of frequency and polarization reuse. Nonetheless, they intentionally withheld this information from the USPTO.

124. This intentional withholding of material references also constitutes inequitable conduct and renders the '875 Patent unenforceable.

PRAYER FOR RELIEF.

Loral respectfully requests that:

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16 *Communications Inc.*
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CERTIFICATE OF SERVICE

I hereby certify that, on December 21 2012, I caused the foregoing **DEFENDANT LORAL SPACE & COMMUNICATIONS INC.’S ANSWER, AFFIRMATIVE DEFENSES AND COUNTERCLAIMS TO PLAINTIFFS’ THIRD AMENDED COMPLAINT FOR PATENT INFRINGEMENT AND BREACH OF CONTRACT and DEMAND FOR JURY TRIAL** to be served on Plaintiffs’ counsel via the Court’s CM/ECF system.

Dated: December 21, 2012

By /s/ Amanda K. Bonn
Amanda K. Bonn