

UNITED STATES DISTRICT COURT
WESTERN DISTRICT OF TEXAS
WACO DIVISION

PARKERVISION, INC.,
Plaintiff,

vs.

INTEL CORPORATION,
Defendant.

Civil Action No. 6:20-cv-00108-ADA

JURY TRIAL DEMANDED

**ANSWER, AFFIRMATIVE DEFENSES, AND COUNTERCLAIMS
TO SECOND AMENDED COMPLAINT FOR PATENT INFRINGEMENT**

Plaintiff ParkerVision, Inc.'s ("ParkerVision") patent infringement claims against Defendant Intel Corporation ("Intel") have no merit and Intel's products do not use ParkerVision's purported inventions in the patents asserted in this case, as evidenced by findings by courts in Germany that chips accused in this case do not infringe ParkerVision's closely related European Patent No. 1 135 853 (the "EP '853 patent"), and that the EP '853 patent is invalid. *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019; Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (trans.) (Ger.) at 10, 15, Dec. 16, 2019.

Accordingly, and as alleged herein, Intel hereby answers ParkerVision's Second Amended Complaint for Patent Infringement (D.I. 84) as follows.

NATURE OF THE ACTION¹

1. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that it has infringed any asserted patent, directly or indirectly. Intel denies any remaining allegations in this paragraph.

¹ For ease of reference, Intel uses the headings used in ParkerVision's Second Amended Complaint. In so doing, Intel does not admit any of the allegations contained in those headings.

PARTIES

2. Intel lacks knowledge or information sufficient to form a belief as to the truth of the allegations in paragraph 2, and therefore denies the same.

3. Intel admits that it is a corporation organized and existing under the laws of Delaware with a place of business at 2200 Mission College Boulevard, Santa Clara, California 95054.

4. Intel admits that it has facilities at 1300 S. Mopac Expressway, Austin, Texas 78746; 6500 River Place Blvd, Bldg. 7, Austin, Texas 78730; and 5113 Southwest Parkway, Austin, Texas 78735. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

5. Intel admits that it has a Texas registered agent located at CT Corporation System, 1999 Bryan Street, Suite 900, Dallas, Texas 75201. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

6. Intel admits that since 1989, it has been registered to do business in the State of Texas under Texas Taxpayer Number 19416727436. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

JURISDICTION AND VENUE

7. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel admits that this Court has subject matter jurisdiction over ParkerVision's allegations of patent infringement. Intel denies any remaining allegations in this paragraph.

8. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel admits that Intel Corporation is a named party in this action and that it has a place of business in this District, specifically, 1300 S. Mopac Expressway, Austin, Texas 78746. Intel specifically denies that it has committed acts of

infringement in this District or anywhere else. Intel further denies that venue is convenient in this District, and denies that venue will be proper or convenient in this District for all matters where Intel is a named party; given the extent of Intel's operations in other states, transfer out of this District and/or Division will presumably be appropriate in other cases and nothing herein should be read as a waiver of Intel's right to request transfer out of this Division and/or District in future cases as may be appropriate. Except as so expressly admitted, Intel denies the remaining allegations in this paragraph.

9. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel admits that it has recruited and employs some Texas residents. Intel denies any remaining allegations in this paragraph.

10. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel admits that it conducts business within this judicial district; that it has facilities in this judicial district; that it receives income from its operations in this judicial district; and that it employs Texas residents within this judicial district. Intel denies any remaining allegations in this paragraph.

11. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

12. Intel denies that it has infringed any asserted patent, directly or indirectly. Moreover, this paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

13. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

14. Intel admits that it has facilities in Austin and that it has employees at those facilities but none of those employees have any material connection to this case. The remaining statements in this paragraph are legal conclusions to which no response is required. To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

15. Intel admits that its website describes its operations in Austin as follows: “[l]ocated in the capitol city of Texas, Intel Austin is an important research and development center for the Intel technology that is changing the way we live, work, and play. Among the innovations developed in Austin are core technologies for next-generation microprocessors, platforms and base software; groundbreaking silicon solutions for computing and communications devices, which includes handheld computing and cellular communications; and cutting-edge network storage products.” To the extent a further response is required, Intel denies any remaining allegations in this paragraph.

16. Intel admits that the third-party website cited in paragraph 16 of the Second Amended Complaint purports to list H-1B labor condition applications for “Employer Name” “Intel Corporation” at “Worksite City” “Austin, TX.” Intel lacks knowledge and information sufficient to form a belief as to the truth of the statements on the cited third-party website at this time, and therefore denies the same. The remaining statements in this paragraph are legal conclusions to which no response is required. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

17. Intel admits that its website lists job openings for positions in Austin, Texas. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

18. Intel admits that it is a party to *Flash-Control, LLC v. Intel Corp.*, Case No. 1:19-cv-01107 (W.D. Tex.) and *VLSI Tech. LLC v. Intel Corp.*, Case No. 1:19-cv-00977 (W.D.

Tex.). To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

BACKGROUND

19. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

20. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

21. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

22. Intel denies the allegations of paragraph 22, including, without limitation, the assertion that ParkerVision allegedly "developed an innovative method of RF direct conversion by a process of sampling a RF carrier signal and transferring energy to create a down-converted baseband signal." Intel lacks knowledge or information sufficient to respond to ParkerVision's assertions regarding the time frame in which ParkerVision was allegedly working on this technology, and therefore denies such allegations on that basis. Intel denies any remaining allegations in this paragraph.

23. Intel lacks knowledge or information sufficient to respond to ParkerVision's assertions regarding the creation of prototype chips or conduction of tests, and therefore denies such allegations on that basis. Intel denies that ParkerVision's "technology led to improved RF receiver performance, lower power consumption, reduced size and integration benefits" and further denies that ParkerVision's technology allowed "RF transceivers [to] be built smaller, cheaper and with greater improved performance." Intel denies any remaining allegations in this paragraph.

24. Intel denies that ParkerVision's technology represented "innovation[]" and further denies that ParkerVision developed technologies novel or useful in the areas of

“additional RF down-conversion technologies, RF up-conversion technologies and other related direct-conversion technologies,” or “complementary wireless communications technologies that involved interactions, processes, and controls between the baseband processor and the transceiver.” Intel denies that ParkerVision’s technology “improved” or “enhanced the operation of transceivers that incorporate ParkerVision’s down-converter and up-converter technologies.” Intel lacks knowledge or information sufficient to respond to ParkerVision’s assertions regarding the size of its patent portfolio, and therefore denies such allegations on that basis. Intel denies any remaining allegations in this paragraph.

25. Intel denies that ParkerVision’s technology constituted “innovations.” Qualcomm is not a party to this lawsuit, and Intel denies that Qualcomm’s alleged conduct has any bearing on this litigation. Intel denies any remaining allegations in this paragraph.

26. Intel denies that ParkerVision’s “technology” is “significant,” “revolutionary,” “critical,” a “holy grail,” or that it offered performance benefits, as evidenced by ParkerVision’s history of failed claims of patent infringement. For example, the Federal Patent Court in Germany rejected ParkerVision’s contention that it invented a “fundamentally different approach to energy transmission down-conversion,” and instead found that ParkerVision’s EP ’853 patent would have been found invalid, had it not already expired. *See Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, 15, Dec. 16, 2019.* Intel also denies the remaining characterizations of ParkerVision’s technology in this paragraph. These purported statements by individuals at Qualcomm are not relevant to this litigation and do not support ParkerVision’s allegations of infringement here, particularly in light of ParkerVision’s losses on its claims of patent infringement against Qualcomm in the Middle District of Florida and at the Federal Circuit. *See Parkervision, Inc. v. Qualcomm Inc.*, 27 F. Supp. 3d 1266, 1269

(M.D. Fla. 2014), *aff'd in part, rev'd in part*, 621 F. App'x. 1009 (Fed. Cir. 2015). Intel denies any remaining allegations in this paragraph.

27. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

28. Intel denies that ParkerVision's purported technology addressed "a critical need for smaller, more efficient receivers capable of supporting multiple frequency bands," and denies any remaining allegations in this paragraph.

29. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

30. Intel denies that it uses or has ever used ParkerVision's technology. Intel further denies that ParkerVision has been damaged by Intel's conduct. Intel lacks knowledge or information sufficient to respond to ParkerVision's remaining allegations in this paragraph, and therefore denies such remaining allegations on that basis.

31. Denied.

INTEL CHIPS

32. Intel admits that Intel and/or its affiliates have manufactured and sold radio frequency ("RF") transceiver chips and/or modems, including the Intel PMB 5750, PMB 5757 and PMB 5762 (collectively, the "RF Transceiver Chips"), outside the United States in Asia, and that those same chips may be incorporated by third parties into smartphones. Intel objects to ParkerVision's belated attempt to broaden this case beyond the RF Transceiver Chips through its amended definition of "Intel Chips." At the April 26, 2021 hearing, the Court ordered that it was too late for ParkerVision to add non-cellular products such as the "near field communication devices, smart watches, personal area networks, cable modems, smart meters, DSL modems, Bluetooth devices and/or Wi-Fi devices" referenced in Paragraph 32, absent a significant adjustment to the case schedule. The same day this Answer was due, ParkerVision

informed Intel that it intends to pursue non-cellular products, but the Court has not yet adjusted the case schedule. In light of the current status of these products, Intel's investigation into near field communication devices, smart watches, personal area networks, cable modems, smart meters, DSL modems, Bluetooth devices and/or Wi-Fi devices is ongoing, and on that basis, Intel denies any allegations relating to such products. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

33. Intel admits that its RF Transceiver Chips have been incorporated by third parties into devices such as Apple iPhones. Intel further admits that its RF Transceiver Chips offer, among other things, the ability to connect to a cellular network. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

34. Intel admits that the PMB 5750 has been incorporated by third parties into the Apple iPhone 7 and 7 Plus. Intel admits that the PMB 5757 has been incorporated by third parties into the Apple iPhone 8, 8 Plus, and X. Intel admits that the PMB 5762 has been incorporated by third parties into the Apple iPhone XR, XS, and XS Max. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

35. Intel states that Apple acquired assets related to Intel's RF Transceiver Chips in December 2019. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

THE ASSERTED PATENTS

United States Patent No. 6,266,518

36. Intel admits that U.S. Patent No. 6,266,518 (the "518 patent") is entitled "Method and System for Down-Converting Electromagnetic Signals by Sampling and Integrating Over Apertures" and was issued on July 24, 2001, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations

37. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '518 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

38. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 6,580,902

39. Intel admits that U.S. Patent No. 6,580,902 (the "902 patent") is entitled "Frequency Translation Using Optimized Switch Structures" and was issued on June 17, 2003, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

40. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '902 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

41. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 7,110,444

42. Intel admits that U.S. Patent No. 7,110,444 (the "444 patent") is entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementations" and was issued on September 19, 2006, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

43. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '444 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

44. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 7,539,474

45. Intel admits that U.S. Patent No. 7,539,474 (the "'474 patent") is entitled "DC Offset, Re-Radiation, and I/Q Solutions Using Universal Frequency Translation Technology" and was issued on May 26, 2009, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

46. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '474 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

47. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 8,588,725

48. Intel admits that U.S. Patent No. 8,588,725 (the "'725 patent") is entitled "Apparatus, System, and Method for Down Converting and Up-Converting Electromagnetic Signals" and was issued on November 19, 2013, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

49. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '725 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

50. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 8,660,513

51. Intel admits that U.S. Patent No. 8,660,513 (the “513 patent”) is entitled “Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same, and Aperture Relationships” and was issued on February 25, 2014, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

52. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the ’513 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

53. Intel lacks knowledge or information sufficient to respond to ParkerVision’s allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 9,118,528

54. Intel admits that U.S. Patent No. 9,118,528 (the “528 patent”) is entitled “Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same, and Aperture Relationships” and was issued on August 25, 2015, but denies that it is a valid or or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

55. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the ’528 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

56. Intel lacks knowledge or information sufficient to respond to ParkerVision’s allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 9,246,736

57. Intel admits that U.S. Patent No. 9,246,736 (the “736 patent”) is entitled “Method and System for Down-Converting an Electromagnetic Signal” and was issued on

January 26, 2016, but denies that it is a valid or duly and legally issued patent. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

58. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '736 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

59. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

United States Patent No. 9,444,673

60. Intel admits that U.S. Patent No. 9,444,673 (the "'673 patent") is entitled "Methods and Systems for Down-Converting a Signal Using a Complementary Transistor Structure" and was issued on September 13, 2016, but denies that it is a valid or duly and legally issued patent. Intel denies that the '673 patent is attached as Exhibit 10 to ParkerVision's Second Amended Complaint, as no Exhibits were filed with the Second Amended Complaint. To the extent any other response to the allegations in this paragraph is required, Intel denies such allegations.

61. This paragraph states legal conclusions to which no response is required. To the extent a further response is required, Intel denies that the '673 patent is valid and enforceable, and further denies all remaining allegations in this paragraph.

62. Intel lacks knowledge or information sufficient to respond to ParkerVision's allegations in this paragraph, and therefore denies such allegations on that basis.

CLAIMS FOR RELIEF

COUNT II² – Alleged Infringement of United States Patent No. 6,266,518

² ParkerVision's Second Amended Complaint starts with Count II. Intel's Answer uses the same numbering for ease of cross-reference.

63. Intel repeats and incorporates its Answers to paragraphs 1 to 62 as though fully set forth herein.

64. Intel denies each and every allegation in paragraph 64.

65. Intel denies each and every allegation in paragraph 65.

66. This paragraph, which merely parrots language directly from the claims and specification of the '518 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '518 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

67. This paragraph, which merely parrots language directly from the claims and specification of the '518 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '518 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

68. This paragraph, which merely parrots language directly from the claims and specification of the '518 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '518 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

69. This paragraph, which merely parrots language directly from the claims and specification of the '518 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '518 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

70. Intel denies each and every allegation in paragraph 70.

COUNT III – Alleged Infringement of United States Patent No. 6,580,902

71. Intel repeats and incorporates its Answers to paragraphs 1 to 70 as though fully set forth herein.

72. Intel denies each and every allegation in paragraph 72.

73. Intel denies each and every allegation in paragraph 73.

74. This paragraph, which merely parrots language directly from the claims and specification of the '902 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '902 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

75. This paragraph, which merely parrots language directly from the claims and specification of the '902 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '902 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

76. This paragraph, which merely parrots language directly from the claims and specification of the '902 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '902 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

77. This paragraph, which merely parrots language directly from the claims and specification of the '902 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '902 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

78. Intel denies each and every allegation in paragraph 78.

COUNT IV – Alleged Infringement of United States Patent No. 7,110,444

79. Intel repeats and incorporates its Answers to paragraphs 1 to 78 as though fully set forth herein.

80. Intel denies each and every allegation in paragraph 80.

81. Intel denies each and every allegation in paragraph 81.

82. This paragraph, which merely parrots language directly from the claims and specification of the '444 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '444 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

83. This paragraph, which merely parrots language directly from the claims and specification of the '444 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '444 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

84. Intel denies each and every allegation in paragraph 84.

COUNT V – Alleged Infringement of United States Patent No. 7,539,474

85. Intel repeats and incorporates its Answers to paragraphs 1 to 84 as though fully set forth herein.

86. Intel denies each and every allegation in paragraph 86.

87. Intel denies each and every allegation in paragraph 87.

88. This paragraph, which merely parrots language directly from the claims and specification of the '474 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes

any valid and enforceable claim of the '474 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

89. This paragraph, which merely parrots language directly from the claims and specification of the '474 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '474 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

90. This paragraph, which merely parrots language directly from the claims and specification of the '474 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '474 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

91. Intel denies each and every allegation in paragraph 91.

COUNT VI – Alleged Infringement of United States Patent No. 8,588,725

92. Intel repeats and incorporates its Answers to paragraphs 1 to 91 as though fully set forth herein.

93. Intel denies each and every allegation in paragraph 93.

94. Intel denies each and every allegation in paragraph 94.

95. This paragraph, which merely parrots language directly from the claims and specification of the '725 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '725 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

96. This paragraph, which merely parrots language directly from the claims and specification of the '725 patent and makes no effort to address the actual functioning of Intel's

products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '725 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

97. Intel denies each and every allegation in paragraph 97.

COUNT VII – Alleged Infringement of United States Patent No. 8,660,513

98. Intel repeats and incorporates its Answers to paragraphs 1 to 97 as though fully set forth herein.

99. Intel denies each and every allegation in paragraph 99.

100. Intel denies each and every allegation in paragraph 100.

101. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

102. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

103. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

104. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

105. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

106. This paragraph, which merely parrots language directly from the claims and specification of the '513 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '513 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

107. Intel denies each and every allegation in paragraph 107.

COUNT VIII – Alleged Infringement of United States Patent No. 9,118,528

108. Intel repeats and incorporates its Answers to paragraphs 1 to 107 as though fully set forth herein.

109. Intel denies each and every allegation in paragraph 109.

110. Intel denies each and every allegation in paragraph 110.

111. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes

any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

112. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

113. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

114. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

115. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

116. This paragraph, which merely parrots language directly from the claims and specification of the '528 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes

any valid and enforceable claim of the '528 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

117. Intel denies each and every allegation in paragraph 117.

COUNT IX – Alleged Infringement of United States Patent No. 9,246,736

118. Intel repeats and incorporates its Answers to paragraphs 1 to 117 as though fully set forth herein.

119. Intel denies each and every allegation in paragraph 119.

120. Intel denies each and every allegation in paragraph 120.

121. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

122. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

123. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

124. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's

products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

125. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

126. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

127. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

128. This paragraph, which merely parrots language directly from the claims and specification of the '736 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '736 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

129. Intel denies each and every allegation in paragraph 129.

COUNT X – Alleged Infringement of United States Patent No. 9,444,673

130. Intel repeats and incorporates its Answers to paragraphs 1 to 129 as though fully set forth herein.

131. Intel denies each and every allegation in paragraph 131.

132. Intel denies each and every allegation in paragraph 132.

133. This paragraph, which merely parrots language directly from the claims and specification of the '673 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '673 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

134. This paragraph, which merely parrots language directly from the claims and specification of the '673 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '673 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

135. This paragraph, which merely parrots language directly from the claims and specification of the '673 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '673 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

136. This paragraph, which merely parrots language directly from the claims and specification of the '673 patent and makes no effort to address the actual functioning of Intel's products, states legal conclusions to which no response is required. Intel denies that it infringes any valid and enforceable claim of the '673 patent. To the extent a further response is required to any allegations in this paragraph, Intel denies such allegations.

137. Intel denies each and every allegation in paragraph 137.

JURY DEMANDED

Intel demands a trial by jury on all issues so triable.

RESPONSE TO PRAYER FOR RELIEF

Intel denies that it has infringed any asserted patent, directly or indirectly. Intel denies that ParkerVision is entitled to any of the grounds for relief enumerated in the Second Amended Complaint or any other relief, and respectfully requests that the Court enter judgment against ParkerVision on each of ParkerVision's claims. To the extent the Prayer for Relief includes any factual allegations, Intel denies those allegations.

AFFIRMATIVE AND OTHER DEFENSES

WHEREFORE, having answered ParkerVision's Second Amended Complaint, Intel asserts the following defenses set forth below. By pleading these defenses, Intel does not concede that it has the burden of proof as to any of them.

Intel reserves the right to allege additional affirmative defenses that become known through the course of discovery.

FIRST DEFENSE: FAILURE TO STATE A CLAIM

138. The Second Amended Complaint, and each purported claim for relief asserted therein, fails to state a claim upon which relief can be granted.

SECOND DEFENSE: NON-INFRINGEMENT

139. Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale or imported into the United States, any products or methods that infringe any valid and enforceable claim of the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

THIRD DEFENSE: INVALIDITY

140. One or more claims of the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents are invalid for failure to meet the conditions of patentability and/or otherwise comply with one or more provisions of 35 U.S.C. §§ 102, 103, 112, and/or 116.

FOURTH DEFENSE: UNENFORCEABILITY

141. The '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents, and the claims therein, are unenforceable against Intel.

FIFTH DEFENSE: EQUITABLE ESTOPPEL, WAIVER, ACQUIESCENCE,

UNCLEAN HANDS

142. ParkerVision's claims for relief are barred, in whole or in part, under principles of equity, including but not limited to estoppel, waiver, acquiescence, and/or unclean hands. For example, ParkerVision has engaged in serial litigation in which it has unsuccessfully asserted these and related patents against multiple parties, including against Intel's SMARTi™ chip products that ParkerVision has also accused of infringement in this case. In Germany, courts have found Intel chips at issue here do not infringe the EP '853 patent, which is a closely related patent to the patents asserted in this litigation, and also determined that the EP '853 patent would likely have been found invalid. *See* Munich Regional Court, 7 O 241/17, Final Judgement (trans.) (Ger.) at 19, Apr. 25, 2019; *see also* Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, 15, Dec. 16, 2019. In light of ParkerVision's serial and unsuccessful patent litigation campaign, ParkerVision's claims should therefore be barred, in whole or in part, under the principles of equity, including the doctrine of unclean hands.

143. As a further example, in 2011, MaxTak Capital Advisors, LLC, MaxTak Partners LP, and David Greenbaum sued ParkerVision for fraud, alleging that ParkerVision "made numerous public statements omitting material facts and deliberately misrepresenting: (a) d2p's [i.e., ParkerVision's 'direct-to-power' technology] effectiveness and value; (b) the

interest expressed by OEMs and other manufacturers in developing and commercializing products integrating d2p technology; (c) ParkerVision's financial results; and (d) the Company's prospects for developing profitable sales of its d2p technology." See *MaxTak Capital Advisors, et al. v. ParkerVision, Inc., et al.*, Case No. 2:11-cv-07549, D.I. 1 ¶ 33 (D.N.J. Dec. 28, 2011). On information and belief, the ParkerVision d2p technology at issue in *MaxTak* relates to the same RF technology that ParkerVision claims to have invented in its Complaint, First Amended Complaint, and Second Amended Complaint in this case. See, e.g., D.I. 1 ¶¶ 20-31 (Complaint); D.I. 14 ¶¶ 20-31 (First Amended Complaint); D.I. 84 ¶¶ 20-31 (Second Amended Complaint). On information and belief, ParkerVision has likewise misrepresented its RF technology in its Complaint, First Amended Complaint, and Second Amended Complaint in this case, and ParkerVision's claims should therefore be barred, in whole or in part, under the principles of equity, including the doctrine of unclean hands.

SIXTH DEFENSE: PROSECUTION HISTORY ESTOPPEL AND DISCLAIMER

144. ParkerVision is estopped, based on statements, representations, and admissions made during prosecution of the patent applications that led to the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents from asserting that the claims of the aforementioned patents are infringed by Intel or Intel's products, services, including the doctrine of equivalents.

SEVENTH DEFENSE: LIMITATION ON DAMAGES

145. ParkerVision's claims for monetary damages are limited by the statute of limitations and/or limited to acts of infringement occurring within six years of the date of initiating this suit under 35 U.S.C. § 286.

EIGHTH DEFENSE: FAILURE TO MARK

146. To the extent ParkerVision, its predecessors, or licensees of any asserted patent failed to comply with the marking requirements set forth in 35 U.S.C. § 287, the relief sought by ParkerVision is barred, in whole or in part.

**COUNTERCLAIMS TO SECOND AMENDED COMPLAINT FOR PATENT
INFRINGEMENT**

Counterclaim Plaintiff Intel Corporation (“Intel”) alleges the following Counterclaims in response to Counterclaim Defendant ParkerVision, Inc.’s (“ParkerVision”) Second Amended Complaint (D.I. 84) for patent infringement.

THE PARTIES

1. Counterclaim Plaintiff Intel is a corporation organized and existing under the laws of the State of Delaware, with a place of business at 2200 Mission College Boulevard, Santa Clara, California 95054.

2. Counterclaim Defendant ParkerVision alleges in its Second Amended Complaint that it is a Florida corporation with its principal place of business at 9446 Philips Highway, Jacksonville, Florida 32256.

JURISDICTION AND VENUE

3. These Counterclaims arise under Title 35 of the United States Code. The Court has subject matter jurisdiction over these Counterclaims pursuant to 28 U.S.C. §§ 1331, 1338(a), 2201, and 2202.

4. ParkerVision is subject to personal jurisdiction in this District because ParkerVision filed its Complaint, First Amended Complaint, and Second Amended Complaint in this District.

5. Venue is proper in this District because ParkerVision filed its Complaint, First Amended Complaint, and Second Amended Complaint in this District.

FACTUAL BACKGROUND

6. In this Second Amended Complaint, ParkerVision alleges that it is the owner of U.S. Patent Nos. 6,266,518 (“518 patent”); 6,580,902 (“902 patent”); 7,110,444 (“444 patent”); 7,539,474 (“474 patent”); 8,588,725 (“725 patent”); 8,660,513 (“513 patent”); 9,118,528 (“528 patent”); 9,246,736 (“736 patent”); and 9,444,673 (“673 patent”).

7. In its Second Amended Complaint, ParkerVision alleges that Intel's PMB 5750, PMB 5757, and PMB 5762 (collectively, the "RF Transceiver Chips") infringe the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents.

8. Intel denies each and every such infringement allegation.

9. As a result of ParkerVision's actions and statements, including the filing of the Second Amended Complaint, an actual and justiciable controversy exists between ParkerVision and Intel with regard to the validity and infringement of the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents.

10. A judicial determination is necessary and appropriate at this time given ParkerVision's allegations against Intel and in order for Intel to ascertain its rights and duties with respect to the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents.

FIRST COUNTERCLAIM

(Declaratory Judgement of Non-Infringement of U.S. Patent No. 6,266,518)

11. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

12. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

13. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '518 patent, and that the '518 patent is valid and enforceable.

14. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '518 patent.

15. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '518 patent, and therefore Intel does not infringe the claims of the '518 patent.

16. For example, Intel does not infringe at least Claim 67 of the '518 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate an apparatus for down-converting a carrier signal to a lower frequency signal comprising at least one or more of the following limitations: (i) a universal frequency down-converter (UFD), including a switch, an integrator coupled to said switch, and a pulse generator coupled to said switch; (ii) a reactive structure coupled to said UFD; (iii) wherein said pulse generator outputs pulses to said switch at an aliasing rate that is determined according to (a frequency of the carrier signal \pm a frequency of the lower frequency signal) divided by N; (iv) wherein said pulses have apertures and cause said switch to close and sample said carrier signal; (v) wherein energy is transferred from said carrier signal and integrated using said integrator during apertures of said pulses; (vi) wherein said lower frequency signal is generated from the transferred energy; and (vii) wherein energy is transferred to a load during an off-time.

17. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 ("EP '853") in a proceeding in Germany at least because "there is no sampling means according to the patent." *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP '853 patent claims priority to U.S. Patent No. 6,061,551 ("551 patent") and the '518 patent is a direct continuation of the '551 patent. In addition, the EP '853 patent, like Claim 67 of the '518 patent, includes claims that require "sampling." *See id.* at 4 ("[A] sampling means for sampling the input signal at a sampling frequency....").

18. Intel does not infringe the '518 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the '518 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

19. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the '518 patent.

SECOND COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 6,266,518)

20. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

21. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

22. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '518 patent, and that the '518 patent is valid and enforceable.

23. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '518 patent.

24. Intel contests the validity and enforceability of the '518 patent, and does not infringe the '518 patent at least because the claims of the '518 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

25. For example, U.S. Patent No. 6,230,000 (“Tayloe”) in combination with U.S. Patent No. 5,345,471 (“McEwan”) renders obvious, including at least under ParkerVision’s alleged infringement theory, at least Claim 67 of the ’518 patent under 35 U.S.C. § 103. At least under ParkerVision’s apparent infringement theory, Tayloe discloses and/or renders obvious every element of Claim 67. To the extent ParkerVision contends that Tayloe does not disclose energy transferred to a load during an off-time, that element is disclosed and/or rendered obvious by at least McEwan. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision’s final infringement contentions.

26. In addition, the German Federal Patent Court found that all elements of ParkerVision’s related EP ’853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., (“Shen”), and rejected ParkerVision’s argument that it invented a “fundamentally different approach to energy transmission down-conversion.” See Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP ’853 patent claims priority to U.S. Patent No. 6,061,551 (“’551 patent”) and the ’518 patent is a direct continuation of the ’551 patent. In addition, the EP ’853 patent, like Claim 67 of the ’518 patent, includes claims that require “sampling.” See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 67 of the ’518 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision’s final infringement contentions.

27. Similarly, the Federal Circuit found that Claims 82, 90, and 91 of the ’518 patent were anticipated by “Subharmonic Sampling of Microwave Signal Processing Requirements,”

Microwave Journal Editorial Board (May 1992) by Peter Weisskopf (“Weisskopf”). *See ParkerVision, Inc. v. Qualcomm Inc.*, 621 F. App’x 1009, 1022 (Fed. Cir. 2015). Those claims, like Claim 67 of the ’518 patent, require “sampling.” On information and belief, Weisskopf likewise discloses and/or anticipates the elements of at least Claim 67 of the ’518 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision’s final infringement contentions.

28. Intel is entitled to a declaratory judgment that the claims of the ’518 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

THIRD COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 6,580,902)

29. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

30. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

31. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the ’902 patent, and that the ’902 patent is valid and enforceable.

32. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision’s Second Amended Complaint and Intel’s Answer as to the validity and infringement of the ’902 patent.

33. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the ’902 patent, and therefore Intel does not infringe the claims of the ’902 patent.

34. For example, Intel does not infringe at least Claim 1 of the '902 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a circuit for down-converting an electromagnetic signal, comprising at least one or more of the following limitations: (i) an energy transfer module having a switch having a switch module and an energy storage module, said energy transfer module sampling the electromagnetic signal at an energy transfer rate, according to an energy transfer signal, to obtain sampled energy, said sampled energy being stored by said energy storage module, a down-converted signal being generated from said sampled energy, wherein (ii) said energy transfer module further comprises: (iii) transistors coupled together, said transistors having a common first port, a common second port, and a common control port, wherein the electromagnetic signal is accepted at said common first port and said sampled energy is present at said common second port, and further wherein said common control port accepts said energy transfer signal, said energy transfer signal having a control frequency that is substantially equal to said energy transfer rate, and (iv) wherein each of said transistors has a drain, a source, and a gate, and said common first port couples together drains of said transistors, said common second port couples together sources of said transistors, and said common control port couples together gates of said transistors.

35. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 ("EP '853") in a proceeding in Germany at least because "there is no sampling means according to the patent." *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP '853 patent claims priority to U.S. Application No. 09/293095 that led to the '902 patent, and, like Claim 1 of the '902 patent, includes claims that require "sampling." *See id.* at 4 ("[A] sampling means for sampling the input signal at a sampling frequency....").

36. Intel does not infringe the '902 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the '902 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

37. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the '902 patent.

FOURTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 6,580,902)

38. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

39. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

40. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '902 patent, and that the '902 patent is valid and enforceable.

41. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '902 patent.

42. Intel contests the validity and enforceability of the '902 patent, and does not infringe the '902 patent at least because the claims of the '902 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

43. For example, U.S. Patent No. 6,230,000 (“Taylor”) in combination with “Practical RF Design Manual” (1982) by Doug DeMaw (“DeMaw”) renders obvious, including at least under ParkerVision’s alleged infringement theory, at least Claim 1 of the ’902 patent under 35 U.S.C. § 103. At least under ParkerVision’s apparent infringement theory, Taylor discloses and/or renders obvious every element of Claim 1. To the extent ParkerVision contends that Taylor does not disclose transistors coupled together with common drain, source, and gate ports, wherein the common drain ports receive an input signal and common source ports output a down-converted signal and common control gates receive a control signal, those elements are disclosed and/or rendered obvious by at least DeMaw. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision’s final infringement contentions.

44. Similarly, the German Federal Patent Court found that all elements of ParkerVision’s related EP ’853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., (“Shen”), and rejected ParkerVision’s argument that it invented a “fundamentally different approach to energy transmission down-conversion.” See Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP ’853 patent claims priority to U.S. Application No. 09/293095 that led to the ’902 patent, and, like the ’902 patent, also claims priority to the U.S. Application No. 09/176,022. Further, like Claim 1 of the ’902 patent, the EP ’853 patent includes claims that require “sampling.” See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the ’902 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision’s final infringement contentions.

45. Intel is entitled to a declaratory judgment that the claims of the '902 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

FIFTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 7,110,444)

46. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

47. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

48. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '444 patent, and that the '444 patent is valid and enforceable.

49. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '444 patent.

50. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '444 patent, and therefore Intel does not infringe the claims of the '444 patent.

51. For example, Intel does not infringe at least Claim 2 of the '444 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a wireless modem apparatus, comprising at least one or more of the following limitations: (i) a receiver for frequency down-converting an input signal including, (ii) a first frequency down-conversion module to down-convert the input signal, wherein said first frequency down-conversion module down-converts said input signal according to a first control signal and outputs a first down-converted signal; (iii) a second

frequency down-conversion module to down-convert said input signal, wherein said second frequency down-conversion module down-converts said input signal according to a second control signal and outputs a second down-converted signal; and (iv) a subtractor module that subtracts said second down-converted signal from said first down-converted signal and outputs a down-converted signal; (v) wherein said first frequency down-conversion module under-samples said input signal according to said first control signal, and said second frequency down-conversion module under-samples said input signal according to said second control signal.

52. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 (“EP ’853”) in a proceeding in Germany at least because “there is no sampling means according to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent claims priority to U.S. Patent No. 6,061,551 (“’551 patent”), and the ’444 patent expressly incorporates by reference the ’551 patent. In addition, the EP ’853 patent, like Claim 2 of the ’444 patent, includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

53. Intel does not infringe the ’444 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’444 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

54. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the ’444 patent.

SIXTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 7,110,444)

55. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

56. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

57. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '444 patent, and that the '444 patent is valid and enforceable.

58. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '444 patent.

59. Intel contests the validity and enforceability of the '444 patent, and does not infringe the '444 patent at least because the claims of the '444 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

60. For example, U.S. Patent No. 6,230,000 ("Tayloe") in combination with Peter Weisskopf, "Subharmonic Sampling of Microwave Signal Processing Requirements," Microwave Journal Editorial Board (May 1992) ("Weisskopf") renders obvious, including at least under ParkerVision's alleged infringement theory, at least Claim 2 of the '444 patent under 35 U.S.C. § 103. At least under ParkerVision's apparent infringement theory, Tayloe discloses and/or renders obvious every element of Claim 2. To the extent ParkerVision contends that Tayloe does not disclose under-sampling, that element is disclosed and/or rendered obvious by at least Weisskopf. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

61. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP '853 patent claims priority to U.S. Patent No. 6,061,551 ("'551 patent"), and the '444 patent expressly incorporates by reference the '551 patent. In addition, the EP '853 patent, like Claim 2 of the '444 patent, includes claims that require "sampling." See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements in at least asserted Claim 2 of the '444 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

62. Intel is entitled to a declaratory judgment that the claims of the '444 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

SEVENTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 7,539,474)

63. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

64. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

65. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '474 patent, and that the '474 patent is valid and enforceable.

66. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '474 patent.

67. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '474 patent, and therefore Intel does not infringe the claims of the '474 patent.

68. For example, Intel does not infringe at least Claim 1 of the '474 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate an apparatus for down-converting an input signal, comprising at least one or more of the following limitations: (i) a first frequency down-conversion module that receives an input signal, wherein the first frequency down-conversion module down-converts the input signal according to a first control signal and outputs a first down-converted signal; (ii) a second frequency down-conversion module that receives the input signal, wherein the second frequency down-conversion module down-converts the input signal according to a second control signal and outputs a second down-converted signal; and (iii) a combining module that combines the second down-converted signal with the first down-converted signal and outputs a single channel down-converted signal; (iv) wherein the first frequency down-conversion module comprises a first switch and a first storage element, wherein the first switch is coupled to the first storage element at a first node and coupled to a first reference potential; and (v) wherein the second frequency down-conversion module comprises a second switch and a second storage element, wherein the second switch is coupled to the second storage element at a second node and coupled to a second reference potential.

69. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 (“EP ’853”) in a proceeding in Germany at least because “there is no sampling means according to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent claims priority to U.S. Patent No. 6,061,551 (“’551 patent”), and the ’474 patent expressly incorporates by reference the ’551 patent. Accordingly, Intel does not infringe the claims of the ’474 patent for at least the same reasons that PMB 5750 was found not to infringe the EP ’853 patent.

70. Intel does not infringe the ’474 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’474 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

71. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the ’474 patent.

EIGHTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 7,539,474)

72. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

73. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

74. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '474 patent, and that the '474 patent is valid and enforceable.

75. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '474 patent.

76. Intel contests the validity and enforceability of the '474 patent, and does not infringe the '474 patent at least because the claims of the '474 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

77. For example, "RF and Microwave Circuit Design for Wireless Communications" (1997) by Lawrence E. Larson ("Larson") discloses every element of at least Claim 1 of the '474 patent and therefore anticipates and/or renders obvious, including at least under ParkerVision's apparent infringement theory, at least Claim 1 of the '474 patent under 35 U.S.C. §§ 102, 103. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

78. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court] 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP '853 patent claims priority to U.S. Patent No. 6,061,551 ("'551 patent"), and the '474 patent expressly incorporates by reference the '551 patent. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the '474 patent, and therefore invalidates that claim. Intel will

provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

79. Intel is entitled to a declaratory judgment that the claims of the '474 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

NINTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,588,725)

80. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

81. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

82. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '725 patent, and that the '725 patent is valid and enforceable.

83. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '725 patent.

84. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '725 patent, and therefore Intel does not infringe the claims of the '725 patent.

85. For example, Intel does not infringe at least Claim 1 of the '725 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate an apparatus for down-converting an electromagnetic signal, comprising at least one or more of the following limitations: (i) an aliasing module comprising a switching device and a storage module, the aliasing module receiving as an input

an RF information signal, and the aliasing module providing as an output a down-converted signal; (ii) the switching device of the aliasing module receiving as an input a control signal that controls a charging and discharging cycle of the storage module by controlling the switching device so that a portion of energy is transferred from the RF information signal to the storage module during a charging part of the cycle and a portion of the transferred energy is discharged during a discharging part of the cycle, wherein said control signal operates at an aliasing rate selected so that energy of the RF information signal is sampled and applied to the storage module at a frequency that is equal to or less than twice the frequency of the RF information signal; and (iii) wherein the storage module generates said down-converted signal from the alternate charging and discharging applied to the storage module using said control signal.

86. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 (“EP ’853”) in a proceeding in Germany at least because “there is no sampling means according to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent claims priority to U.S. Patent No. 6,061,551 (“’551 patent”), and the ’725 patent expressly incorporates by reference the ’551 patent. In addition, the EP ’853 patent, like Claim 1 of the ’725 patent, includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

87. Intel does not infringe the ’725 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’725 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

88. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the '725 patent.

TENTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 8,588,725)

89. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

90. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

91. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '725 patent, and that the '725 patent is valid and enforceable.

92. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '725 patent.

93. Intel contests the validity and enforceability of the '725 patent, and does not infringe the '725 patent at least because the claims of the '725 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

94. For example, U.S. Patent No. 6,230,000 ("Tayloe") discloses every element of at least Claim 1 of the '725 patent and therefore anticipates and/or renders obvious, including at least under ParkerVision's apparent infringement theory, at least Claim 1 of the '725 patent under 35 U.S.C. §§ 102, 103. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

95. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court] 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP '853 patent claims priority to U.S. Patent No. 6,061,551 ("'551 patent"), and the '725 patent expressly incorporates by reference the '551 patent. In addition, like Claim 1 of the '725 patent, the EP '853 patent includes claims that require "sampling." See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the '725 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

96. Intel is entitled to a declaratory judgment that the claims of the '725 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

ELEVENTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 8,660,513)

97. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

98. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

99. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '513 patent, and that the '513 patent is valid and enforceable.

100. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '513 patent.

101. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '513 patent, and therefore Intel does not infringe the claims of the '513 patent.

102. For example, Intel does not infringe at least Claim 19 of the '513 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a system for frequency down-converting a modulated carrier signal, comprising at least one or more of the following limitations: (i) a first switch, a first control signal which comprises a sampling aperture with a specified frequency, and a first energy storage element that down-converts said modulated carrier signal according to said first control signal and outputs a down-converted in-phase signal portion of said modulated carrier signal; (ii) a second switch, a second control signal which comprises a sampling aperture with a specified frequency, and a second energy storage element that down-converts said modulated carrier signal according to said second control signal and outputs a down-converted inverted in-phase signal portion of said modulated carrier signal; (iii) a first differential amplifier circuit that combines said down-converted in-phase signal portion with said inverted in-phase signal portion and outputs a first channel down-converted differential in-phase signal; (iv) a third switch, a third control signal which comprises a sampling aperture with a specified frequency, and a third energy storage element that down-converts said modulated carrier signal according to said third control signal and outputs a down-converted quadrature-phase signal portion of

said modulated carrier signal; (v) a fourth switch, a fourth aperture signal, and a fourth energy storage element that down-converts said modulated carrier signal according to said fourth control signal and outputs a down-converted inverted quadrature-phase signal portion of said modulated carrier signal; and (vi) a second differential amplifier circuit that combines said down-converted quadrature-phase signal portion with said inverted quadrature-phase signal portion and outputs a second channel down-converted differential quadrature-phase signal.

103. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 (“EP ’853”) in a proceeding in Germany at least because “there is no sampling means according to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent and the ’513 patent both claim priority to U.S. Application No. 09/176,022, and the EP ’853 patent, like Claim 19 of the ’513 patent, includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

104. Intel does not infringe the ’513 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’513 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

105. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the ’513 patent.

TWELFTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 8,660,513)

106. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

107. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

108. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '513 patent, and that the '513 patent is valid and enforceable.

109. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '513 patent.

110. Intel contests the validity and enforceability of the '513 patent, and does not infringe the '513 patent at least because the claims of the '513 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

111. For example, U.S. Patent No. 6,230,000 ("Tayloe") discloses every element of at least Claim 19 of the '513 patent and therefore anticipates and/or renders obvious, including at least under ParkerVision's apparent infringement theory, at least Claim 19 of the '513 patent under 35 U.S.C. §§ 102, 103. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

112. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court] 5 Ni 19/17 (EP), Decision on Costs and

Determination of the Value in Dispute (Ger.) (trans.)) at 10, Dec. 16, 2019. The EP '853 patent, like the '513 patent, claims priority to the U.S. Application No. 09/176,022. Further, like Claim 19 of the '513 patent, the EP '853 patent includes claims that require "sampling." See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 19 of the '513 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

113. Intel is entitled to a declaratory judgment that the claims of the '513 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

THIRTEENTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 9,118,528)

114. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

115. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

116. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '528 patent, and that the '528 patent is valid and enforceable.

117. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '528 patent.

118. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '528 patent, and therefore Intel does not infringe the claims of the '528 patent.

119. For example, Intel does not infringe at least Claim 1 of the '528 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a system for frequency down-converting a modulated carrier signal to a baseband signal comprising at least one or more of the following limitations: (i) a first switch coupled to a first control signal which comprises a sampling aperture with a specified frequency, wherein the first switch is on and a portion of energy that is distinguishable from noise is transferred from the modulated carrier signal as an output of said first switch during the sampling aperture of the first control signal; (ii) a first energy storage element that stores the transferred energy from the modulated carrier signal and outputs a down-converted in-phase baseband signal portion of said modulated carrier signal; (iii) a second switch coupled to a second control signal which comprises a sampling aperture with a specified frequency, wherein the second switch is on and a portion of energy that is distinguishable from noise is transferred from the modulated carrier signal as an output of said second switch during the sampling aperture of the second control signal; (iv) a second energy storage element that stores the transferred energy from the modulated carrier signal and outputs a down-converted inverted in-phase baseband signal portion of said modulated carrier signal; (v) wherein the portions of transferred energy from each of the first and second switch are integrated over time to accumulate said portions of transferred energy from which said down-converted in-phase baseband signal portion and said down-converted inverted in-phase baseband signal portion are derived; and (vi) a first differential amplifier circuit that combines said down-converted in-phase baseband signal portion with said down-converted inverted in-phase baseband signal portion and outputs a first channel down-converted differential in-phase baseband signal.

120. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 ("EP '853") in a proceeding in Germany at least because "there is no sampling means according

to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent claims priority to U.S. Patent No. 6,061,551 (“’551 patent”), and the ’528 patent expressly incorporates by reference the ’551 patent. In addition, like Claim 1 of the ’528 patent, the EP ’853 patent includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

121. Intel does not infringe the ’528 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’528 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

122. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the ’528 patent.

FOURTEENTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 9,118,528)

123. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

124. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

125. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the ’528 patent, and that the ’528 patent is valid and enforceable.

126. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision’s Second Amended Complaint and Intel’s Answer as to the validity and infringement of the ’528 patent.

127. Intel contests the validity and enforceability of the '528 patent, and does not infringe the '528 patent at least because the claims of the '528 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

128. For example, U.S. Patent No. 6,230,000 ("Tayloe") discloses every element of at least Claim 1 of the '528 patent and therefore anticipates and/or renders obvious, including at least under ParkerVision's apparent infringement theory, at least Claim 1 of the '528 patent under 35 U.S.C. §§ 102, 103. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

129. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court] 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP '853 patent claims priority to U.S. Patent No. 6,061,551 ("551 patent"), and the '528 patent expressly incorporates by reference the '551 patent. In addition, like Claim 1 of the '528 patent, the EP '853 patent includes claims that require "sampling." See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the '528 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

130. Intel is entitled to a declaratory judgment that the claims of the '528 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

FIFTEENTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 9,246,736)

131. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

132. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

133. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '736 patent, and that the '736 patent is valid and enforceable.

134. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '736 patent.

135. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '736 patent, and therefore Intel does not infringe the claims of the '736 patent.

136. For example, Intel does not infringe at least Claim 1 of the '736 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a system for frequency down-converting a modulated carrier signal to a demodulated baseband signal, comprising at least one or more of the following limitations: (i) a first switch coupled to a first control signal which comprises a first sampling aperture with a specified frequency, wherein the first switch is on during the first sampling aperture and wherein the first switch is off outside the first sampling aperture; (ii) a first energy storage element, coupled to said first switch, that outputs a down-converted in-phase baseband signal portion of said modulated carrier signal; (iii) a second switch coupled to a second control signal which comprises a second sampling aperture with a specified frequency, wherein the second switch is on during the second sampling aperture and wherein

the first switch is off outside the second sampling aperture; (iv) a second energy storage element, coupled to said second switch, that outputs a down-converted inverted in-phase baseband signal portion of said modulated carrier signal; (v) wherein the first and second control signals each control a charging and discharging cycle of their respective energy storage element so that for each switch a portion of energy from the modulated carrier signal is transferred to the respective energy storage element when the respective switch is on during the charging cycle, and a portion of previously transferred energy is discharged during the discharging cycle for each respective switch when the respective switch is off.

137. Further, Intel does not infringe at least Claim 1 of the '736 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate a system for frequency down-converting a modulated carrier signal to a demodulated baseband signal comprising at least one or more of the following limitations (vi) wherein for each respective energy storage element, the energy discharged during any given discharge cycle is not completely discharged, with the remaining undischarged energy from the given discharge cycle becoming an initial condition for a next charging cycle that begins immediately following the given discharge cycle; (vii) wherein said down-converted in-phase baseband signal portion is derived from energy accumulated at said first energy storage element during both the charging and the discharging cycles for the first energy storage element; (viii) wherein said down-converted inverted in-phase baseband signal portion is derived from energy accumulated at said second energy storage element during both the charging and the discharging cycles for the second energy storage element; and (ix) a first differential amplifier circuit that combines said down-converted in-phase baseband signal portion with said down-converted inverted in-phase baseband signal portion and outputs a first channel down-converted differential in-phase baseband signal.

138. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 (“EP ’853”) in a proceeding in Germany at least because “there is no sampling means according to the patent.” *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP ’853 patent and the ’736 patent both claim priority to U.S. Application No. 09/176,022, and the EP ’853 patent, like Claim 1 of the ’736 patent, includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

139. Intel does not infringe the ’736 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the ’736 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

140. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the ’736 patent.

SIXTEENTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 9,246,736)

141. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

142. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

143. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '736 patent, and that the '736 patent is valid and enforceable.

144. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '736 patent.

145. Intel contests the validity and enforceability of the '736 patent, and does not infringe the '736 patent at least because the claims of the '736 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

146. For example, U.S. Patent No. 6,230,000 ("Taylor") in combination with *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen") renders obvious, including at least under ParkerVision's alleged infringement theory, at least Claim 1 of the '736 patent under 35 U.S.C. § 103. At least under ParkerVision's apparent infringement theory, Taylor discloses and/or renders obvious every element of Claim 1. To the extent ParkerVision contends Taylor does not disclose a second switch and a second control signal, those elements are disclosed and/or rendered obvious by at least Shen. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

147. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in Shen and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." *See Bundespatentgericht [BPatG] [Federal Patent Court], 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10 Dec. 16, 2019.* The EP '853 patent, like the '736 patent, claims priority to the U.S. Application No.

09/176,022. Further, like Claim 1 of the '736 patent, the EP '853 patent includes claims that require "sampling." *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the '736 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

148. Intel is entitled to a declaratory judgment that the claims of the '736 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

SEVENTEENTH COUNTERCLAIM

(Declaratory Judgment of Non-Infringement of U.S. Patent No. 9,444,673)

149. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

150. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

151. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '673 patent, and that the '673 patent is valid and enforceable.

152. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '673 patent.

153. The RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not meet all of the elements of any of the claims of the '673 patent, and therefore Intel does not infringe the claims of the '673 patent.

154. For example, Intel does not infringe at least Claim 1 of the '673 patent because the RF Transceiver Chips, including the accused Intel PMB 5750, PMB 5757, and PMB 5762, do not use, include, and/or incorporate an apparatus for down-converting an input modulated carrier signal to a demodulated baseband signal, wherein the modulated carrier signal has an amplitude variation, a phase variation, a frequency variation, or a combination thereof, the apparatus comprising at least one or more of the following limitations: (i) a frequency down-conversion module comprising: a switch, a capacitor coupled to said switch, and a pulse generator coupled to said switch; (ii) said pulse generator outputting pulses to said switch at a rate that is a function of a frequency of the modulated carrier signal and a frequency of the demodulated baseband signal determined according to: (the frequency of the modulated carrier signal \pm a frequency of the demodulated baseband signal) divided by N, where N is any integer including 1; (iii) wherein said pulses have apertures and said pulses cause said switch to open outside of said apertures and cause said switch to close and sample the modulated carrier signal during said apertures by transferring energy from the modulated carrier signal and accumulating the transferred energy in said capacitor each time said switch is closed; and (iv) wherein some of the previously accumulated energy is discharged from said capacitor into load circuitry each time said switch is open; and (v) wherein the demodulated baseband signal is generated from (i) the accumulating of the energy transferred to the capacitor each time the switch is closed and (ii) the discharging of said some of the previously accumulated energy into the load circuitry each time the switch is opened.

155. Moreover, the PMB 5750 chip that ParkerVision accuses of infringement in its Second Amended Complaint was already found not to infringe European Patent No. 1 135 853 ("EP '853") in a proceeding in Germany at least because "there is no sampling means according to the patent." *See* Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 19, Apr. 25, 2019. The EP '853 patent and the '673 patent both claim priority to U.S. Application

No. 09/176,022, and the EP '853 patent, like Claim 1 of the '673 patent, includes claims that require “sampling.” *See id.* at 4 (“[A] sampling means for sampling the input signal at a sampling frequency....”).

156. Intel does not infringe the '673 patent because Intel does not make, use, test, sell, offer for sale, or import into the United States, and has not made, used, tested, sold, offered for sale, or imported into the United States, any products or methods that infringe any valid claim of the '673 patent, either directly or indirectly, literally or through the doctrine of equivalents, or otherwise.

157. Intel is entitled to a declaratory judgment that it has not infringed, and is not infringing, directly or indirectly (either literally, under the doctrine of equivalents, or otherwise) any valid, patent-eligible claim of the '673 patent.

EIGHTEENTH COUNTERCLAIM

(Declaratory Judgment of Invalidity of U.S. Patent No. 9,444,673)

158. Intel repeats and re-alleges each and every allegation set forth in the foregoing Paragraphs as if fully set forth herein.

159. Intel counterclaims against ParkerVision pursuant to the patent laws of the United States, Title 35 of the United States Code, and the Declaratory Judgments Act, 28 U.S.C. §§ 2201 and 2202.

160. In its Second Amended Complaint, ParkerVision alleges that Intel is directly infringing, literally and/or under the doctrine of equivalents, the '673 patent, and that the '673 patent is valid and enforceable.

161. An actual controversy exists between ParkerVision and Intel by virtue of the allegations in ParkerVision's Second Amended Complaint and Intel's Answer as to the validity and infringement of the '673 patent.

162. Intel contests the validity and enforceability of the '673 patent, and does not infringe the '673 patent at least because the claims of the '673 patent are invalid under 35 U.S.C. §§ 102, 103, 112, and/or 116.

163. For example, U.S. Patent No. 6,230,000 ("Tayloe") in combination with U.S. Patent No. 5,345,471 ("McEwan") renders obvious, including at least under ParkerVision's alleged infringement theory, at least Claim 1 of the '673 patent under 35 U.S.C. § 103. At least under ParkerVision's apparent infringement theory, Tayloe discloses and/or renders obvious every element of Claim 1. To the extent ParkerVision contends that Tayloe does not disclose energy transferred to a load during an off-time, that element is disclosed and/or rendered obvious by at least McEwan. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

164. Similarly, the German Federal Patent Court found that all elements of ParkerVision's related EP '853 patent are disclosed in the prior art article *A 900-MHz RF Front-End with Integrated Discrete-Time Filtering*, IEEE J. of Solid-State Circuits, Band 31, Nr. 12 (Dec. 1996) by Shen, D. H., et al., ("Shen"), and rejected ParkerVision's argument that it invented a "fundamentally different approach to energy transmission down-conversion." See Bundespatentgericht [BPatG] [Federal Patent Court] 5 Ni 19/17 (EP), Decision on Costs and Determination of the Value in Dispute (Ger.) (trans.) at 10, Dec. 16, 2019. The EP '853 patent, like the '673 patent, claims priority to the U.S. Application No. 09/176,022. Further, like Claim 1 of the '673 patent, the EP '853 patent includes claims that require "sampling." See Munich Regional Court, 7 O 2141/17, Final Judgment (trans.) (Ger.) at 4, Apr. 25, 2019. Shen likewise discloses and/or renders obvious the elements of at least Claim 1 of the '673 patent, and therefore invalidates that claim. Intel will provide final invalidity contentions consistent with the schedule ordered by the Court and following ParkerVision's final infringement contentions.

165. Intel is entitled to a declaratory judgment that the claims of the '673 patent are invalid, including, without limitation, under 35 U.S.C. §§ 102, 103, 112, and/or 116.

DEMAND FOR JURY TRIAL

Intel demands a trial by jury on all issues triable of right by a jury raised in ParkerVision's Second Amended Complaint, Intel's Answer, and Intel's Counterclaims pursuant to Federal Rule of Civil Procedure.

PRAYER FOR RELIEF

WHEREFORE, Intel denies that ParkerVision is entitled to any relief, including, without limitation, as described in the "Prayer for Relief" section of ParkerVision's Second Amended Complaint.

Intel prays for:

- A. A judgment in favor of Intel dismissing with prejudice ParkerVision's Second Amended Complaint in its entirety and denying the relief requested therein;
- B. A declaration that the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents are not infringed by Intel;
- C. A declaration that the claims of the '518, '902, '444, '474, '725, '513, '528, '736, and '673 patents are invalid;
- D. A finding that this is an exceptional case under 35 U.S.C. § 285, including an award to Intel of attorneys' fees, costs, and disbursements incurred in defending this action; and
- E. Such other and further relief as the Court deems just and proper.

Dated: April 30, 2021

Respectfully submitted,

Michael J. Summersgill (admitted *Pro Hac Vice*)
Sarah B. Petty (admitted *Pro Hac Vice*)
Samuel C. Leifer (*Pro Hac Vice*)
WILMER CUTLER PICKERING HALE AND DORR
LLP
60 State Street
Boston, Massachusetts 02109
T (617) 526-6000
michael.summersgill@wilmerhale.com
sarah.petty@wilmerhale.com
samuel.leifer@wilmerhale.com

Jason F. Choy (admitted *Pro Hac Vice*)
Catherine S. Owens (*Pro Hac Vice*)
WILMER CUTLER PICKERING HALE AND DORR
LLP
350 South Grand Avenue, Suite 2100
Los Angeles, California 90071
T (213) 443-5300
jason.choy@wilmerhale.com
catherine.owens@wilmerhale.com

/s/ J. Stephen Ravel
J. Stephen Ravel
Texas State Bar No. 16584975
KELLY HART & HALLMAN LLP
303 Colorado, Suite 2000
Austin, Texas 78701
T (512) 495-6429
steve.ravel@kellyhart.com

James E. Wren
Texas State Bar No. 22018200
1 Bear Place, Unit 97288
Waco, Texas 76798
T (254) 710-7670
james.wren@baylor.edu

*Attorneys for Defendant Intel
Corporation*

CERTIFICATE OF SERVICE

I hereby certify that all counsel of record are being served with a copy of the foregoing document via the Court's CM/ECF system on April 30, 2021.

/s/ J. Stephen Ravel
J. Stephen Ravel