

Committee on Review of FCC Order 20-48 Authorizing Operation of a Terrestrial Radio Network Near the GPS Frequency Bands

DEPS-CSTB-21-02

1. Maureen McLaughlin, Iridium Communications Inc.
9/16/2021
Email from public comment form
2. Ligado Networks
10/28/2021
Slide deck presented by Ligado Networks at 10/28/2021 Committee Meeting entitled "Presentation to the National Academies of Sciences, Engineering, and Medicine" (PDF)
3. Maureen McLaughlin, Iridium Communications Inc.
10/29/2021
Submission letter for materials to committee (PDF)
4. Iridium Communications Inc.
10/29/2021
Technical Analysis of Ligado Interference Impact on Iridium Aviation Services (PDF)
5. Iridium Communications Inc.
10/29/2021
Redacted excerpt from FCC Record (PDF)
6. Iridium Communications Inc.
10/29/2021
Technical Analysis of Ligado Interference Impact on Iridium User Links (PDF)
7. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Report entitled "2013 – 2018 UNAVCO Community Project Report Geodesy Advancing Geosciences and EarthScope: GAGE Quarterly Report" (PDF)
8. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Presentation given at UNAVCO workshop on 1/25/2017, entitled "Polar Support Services for Continuous GNSS Installations: Status and Future of GNET" (PDF)
9. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Two tables summarizing test data regimes (PDF)
10. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
NTIA TM-20-536 report, entitled "Assessment of Compatibility Between Global Positioning System Receivers and Adjacent Band Base Station and User Equipment Transfers" (PDF)
11. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ligado response to NTIA TM-20-536 report (PDF)
12. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ex parte submission to FCC record enclosing Deere Agreement, dated 12/8/2015 (PDF)

13. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ex parte submission to FCC record enclosing Trimble agreement, dated 2/3/2016 (PDF)
14. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ex parte submission to FCC record enclosing Garmin agreemeng, dated 12/15/2015 (PDF)
15. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Letter to FCC Secretary Marlene H. Dortch from Doug Smith of Ligado Networks LLC and Michael Ritter of NovAtelInc, dated 6/27/2016 (PDF)
16. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ex parte submission to FCC record from Sepentrio, dated 10/5/2018 (PDF)
17. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Letter to FCC Secretary Marlene H. Dortch from Doug Smith of Ligado Networks LLC Ivan Di Federico of Topcon Positioning Systems, Inc., dated 11/29/2016 (PDF)
18. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Ex parte submission to FCC record from Leica Geosystems, dated 6/24/2016 (PDF)
19. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/4/2021
Letter to FCC Secretary Marlene H. Dortch from Michael Ritter of Hexagon Positioning Intelligence, dated 5/7/2018 (PDF)
20. Scott Patrick, Executive Director, Office of Spectrum Management, NTIA
11/4/2021
Slide deck presented by NTIA at 11/4/2021 committee meeting, entitled "National Academies of Sciences, Engineering, and Medicine Independent Review of FCC Order 20-48" (PPT)
21. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Email cover letter describing batch of materials provided to the committee, dated 11/9/2021 (PDF)
22. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Letters from FCC Chair Ajit Pai to members of the House Armed Services Committee, dated 5/26/2020 (PDF)
23. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Letters from FCC Chair Ajit Pai to members of the Senate Armed Services Committee, dated 6/8/2020 (PDF)
24. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021

Letters from FCC Chair Ajit Pai to Senator Chris Coons, Senator Ted Cruz, Senator Mike Lee, Senator Edward Markey, Senator Ron Johnson, Senator Brian Schatz, Senator John Thune, and Senator Mark Warner, dated 6/12/2020 (PDF)

25. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Quarterly report to FCC on Ligado's efforts to engage with federal agencies to exchange information related to their GPS devices, dated 9/30/2021 (PDF)
26. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Quarterly report to FCC on Ligado's efforts to engage with federal agencies to exchange information related to their GPS devices, dated 6/30/2021 (PDF)
27. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado status report to FCC, dated 4/22/2021 (PDF)
28. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Quarterly report to FCC on Ligado's efforts to engage with federal agencies to exchange information related to their GPS devices, dated 3/31/2021 (PDF)
29. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado status report to FCC, dated 10/22/2020 (PDF)
30. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado status report to FCC, dated 10/22/2021 (PDF)
31. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Slides providing more information on the power level (EIRP) for 1526-1536 MHz in the DOT ABC Study (PDF)
32. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado letter to Fred Moorefield, Acting DCIO for Command, Control, Communications and Computers (C4) and Information Infrastructure Capabilities (IIC), Department of Defense, dated 7/1/2020 (PDF)
33. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Response by Fred Moorefield, Acting DCIO for Command, Control, Communications and Computers (C4) and Information Infrastructure Capabilities (IIC), Department of Defense to Ligado's 7/1/2020 letter, dated 7/13/2020 (PDF)
34. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado letter to Mr. Doug Kinkoph, Acting Administrator, National Telecommunications and Information Administration (NTIA), dated 7/17/2020 (PDF)
35. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021

- Response from Mr. Doug Kinkoph, Acting Administrator, National Telecommunications and Information Administration (NTIA), to Ligado's 7/17/2020 letter, dated 7/23/2020 (PDF)
36. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Email from Mr. Doug Kinkoph, Acting Administrator, National Telecommunications and Information Administration (NTIA), to Ligado's 7/17/2020 letter, dated 7/23/2020 (PDF)
37. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado follow-up letter to Fred Moorefield, Deputy CIO for Command, Control, Communications and Computers (C4) Department of Defense, dated 3/12/2021 (PDF)
38. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Ligado letter to Ms. Evelyn Remaley, Acting Administrator, National Telecommunications and Information Administration (NTIA), dated 3/12/2021 (PDF)
39. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Response by Ms. Evelyn Remaley, Acting Administrator, National Telecommunications and Information Administration (NTIA) to Ligado's 3/12/2021 letter, dated 3/22/2021 (PDF)
40. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
11/9/2021
Email from Charryse Shell, Management and Program Analyst, Office of Policy Analysis and Development, dated 4/1/2021 (PDF)
41. J. David Grossman, Executive Director, GPS Innovation Alliance
11/11/2021
Letter to NASEM Study Committee linking to parts of the FCC record (PDF)
42. Maureen McLaughlin, Iridium Communications Inc.
11/15/2021
Letter to study committee from Iridium Communications Inc. (PDF)
43. Dennis Roberson, Roberson and Associates
11/18/2021
Presentation given to committee at 11/18/21 meeting (PDF)
44. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
12/8/2021
Excerpts from DOT ABC study (PDF)
45. Dennis Roberson, Roberson and Associates
12/9/2021
Follow-up letter after 11/18/21 meeting (.doc)
46. Karen Van Dyke, DOT Volpe Center
12/9/2021
Presentation given to committee at 12/9/21 meeting (PDF)
47. Adam Wunderlich, NASCTN
12/15/2021
Presentation given to committee at 12/16/21 meeting (PDF)
48. Michael Marcus, Northeastern University

12/30/2021

Email submitted through public comment form (PDF)

49. Maureen McLaughlin, Iridium Communications Inc.

1/11/2022

Letter transmitting two technical studies by Transfinite Systems Ltd (PDF)

50. Maureen McLaughlin, Iridium Communications Inc.

1/11/2022

Study by Transfinite Systems Ltd entitled "Interference from Ligado User Equipment in the 1627.5-1637.5 MHz band into an Iridium receiver on the ground in the 1617.775-1626.5 MHz band" (PDF)

51. Maureen McLaughlin, Iridium Communications Inc.

1/11/2022

Study by Transfinite Systems Ltd entitled "Interference from Ligado User Equipment in the 1627.5-1637.5 MHz band into an airborne Iridium Certus receiver in the 1617.775-1626.5 MHz band" (PDF)

52. Scott Burgett, Garmin International.

1/12/2022

Presentation to study committee at 1/12/2022 meeting (PDF)

53. Stuart Riley, Trimble Inc.

1/12/2022

Presentation to study committee at 1/12/2022 meeting (PDF)

54. Valerie Green, EVP, Chief Legal Officer, Ligado Networks

1/12/2022

Document submitted to the committee entitled "Ligado Submission re DOT presentation" (PDF)

55. Scott Scheimreif, Executive Vice President, Government Programs, Iridium Communications Inc.

1/13/2022

Presentation given by Iridium team at 1/13/2022 committee meeting (PDF)

56. Brad Parkinson, Stanford University

1/15/2022

Letter to committee (PDF)

57. Brad Parkinson, Stanford University

1/15/2022

Attachment to his 1/15/2022 letter to committee, entitled "Updating the Ligado Issue" (DOC)

58. Andrew Roy, Aviation Spectrum Resources, Inc.

1/20/2022

Presentation from the Aviation Community given at the 1/20/2022 committee meeting (PDF)

59. Dana Goward, Resilient Navigation and Timing Foundation

1/20/2022

Prepared remarks given at the 1/20/2022 committee meeting (PDF)

60. Timothy Birch and John Byrd, National Society of Professional Surveyors

1/20/2022

Presentation given at the 1/20/2022 committee meeting (PDF)

61. Valerie Green, EVP, Chief Legal Officer, Ligado Networks

1/21/2022

- Letter to committee regarding FAA's position on certified aviation GPS receivers (PDF)
62. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
1/21/2022
Attachment to 1/21/2022 Ligado letter—minutes from the November 2017 PNTAB meeting (PDF)
63. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
1/24/2022
Letter to committee regarding presentations from Brad Parkinson, Trimble, and Garmin (PDF)
64. Renee Leduc, Narayan Strategies
1/25/2022
Presentation given to committee at 1/20/2022 meeting (PDF)
65. Paul Murray, Federal Communications Commission
1/27/2022
Presentation given to the committee at the 1/27/2022 meeting (PDF)
66. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
2/7/2022
Letter from Ligado to committee regarding Iridium (PDF)
67. Valerie Green, EVP, Chief Legal Officer, Ligado Networks
2/7/2022
Email from Ligado re: Fighter Jets Hypothetical (PDF)
68. Paul Murray, Federal Communications Commission
2/10/2022
Additional information on the -67 dBW emissions limit (PDF)
69. Anne Swanson, WBK Law on behalf of Garmin
2/22/2022
Garmin Submission of additional info requested by NASEM limit (PDF)
70. Tim Burch, National Society of Professional Surveyors
2/22/2022
NSPS responses to committee questions (PDF)
71. Maureen McLaughlin, Iridium Communications Inc.
2/22/2022
Iridium responses to committee questions (PDF)
72. Maureen McLaughlin, Iridium Communications Inc.
2/22/2022
Iridium responses to Ligado February 4 filing (PDF)
73. Alex Damato, GPS Innovation Alliance
2/22/2022
GPSIA Letter to committee (PDF)
74. Alex Damato, GPS Innovation Alliance
2/22/2022
Attachment to GPSIA Letter to committee—C. Hegarty et al. (PDF)
75. Alex Damato, GPS Innovation Alliance
2/22/2022

Attachment to GPSIA Letter to committee—Letter submitted to FCC by J. David Grossman, Executive Director, GPSIA (PDF)

76. James Kirkland, Trimble Inc.

2/22/2022

Trimble supplemental letter and responses to committee questions (PDF)

77. Paul Murray, Federal Communications Commission

2/22/2022

FCC Filing in response to committee questions (PDF)

78. Karen Van Dyke, DOT Volpe Center

2/27/2022

DOT responses to committee questions (PPT)

79. Valerie Green, EVP, Chief Legal Officer, Ligado Networks

3/1/2022

Letter to committee from Ligado (PDF)

80. Andrew Roy, Aviation Spectrum Resources, Inc.

3/1/2022

Supplement to Aviation Presentation given at the 1/20/2022 committee meeting (PDF)

81. Matthew Hart, CNH Industrial

3/4/2022

CNH Industrial comments on FCC Order 20-48 (PDF)

82. John Skudlarek, DoD CIO/C3I

3/15/2022

DoD GPS Interference Brief for NASEM (PDF)

83. Valerie Green, EVP, Chief Legal Officer, Ligado Networks

3/25/2022

Ligado response to Aviation and DOD materials (PDF)