

Date: April 3, 2015
Subject: Public and Redacted Version of Request for Confidential Treatment and Complementary Exhibits
FCC File Number: 0377-EX-ST-2015
Call Sign: WH9XYD

To Whom It May Concern:

Google Inc. (Google), pursuant to 5 U.S.C. § 552 and Sections 0.457 and 0.459 of the Commission's Rules, 47 C.F.R. §§ 0.457, 0.459, hereby requests that certain information complementary to its above-referenced extension of Special Temporary Authority (STA Extension) be treated as confidential and not subject to public inspection. The designated information constitutes confidential and proprietary information that, if subject to public disclosure, would cause significant commercial, economic, and competitive harm. As described below, Google's request satisfies the standards for grant of such requests set forth in Sections 0.457 and 0.459 of the Commission's Rules.

In accordance with Section 0.459(b) and in support of this request, Google provides the following information:

1. Identification of the Information for Which Confidential Treatment is Sought:

Google's request for confidential treatment is limited to the following information that has been redacted from the STA Extension and complementary exhibits. Google does not seek to withhold from public inspection information in the STA Extension necessary for interference mitigation, including applicant name, contact information, test location, frequency, output power, effective radiated power, emission characteristics and modulation.

Exhibit A - Narrative Statement:

Google requests confidential treatment of the following underlined text from Exhibit A that contains confidential and proprietary information regarding the proposed tests/experiments:

Consistent with the standards set forth in Section 5.61 of the Federal Communications Commission's (FCC's or Commission's) Rules, 47 C.F.R. § 5.61, Google Inc. (Google) outlines below its need for the requested extension of Special Temporary Authority (STA Extension) and the compelling reasons why 0377-EX-ST-2015 should be granted expeditiously.

Google requests that the STA Extension be granted for a period of 180 days. The STA Extension is needed for continued testing of [REDACTED].¹ Among other parameters, Google will continue to evaluate [REDACTED].

Consistent with 0842-EX-ST-2014 (Call Sign WH9XYD), testing will continue to [REDACTED]. Google may conduct [REDACTED]. [REDACTED]. [REDACTED] will automatically disable any transmitter [REDACTED] under the STA Extension if the [REDACTED] exits the test area covered by the STA Extension.

Google will continue to test [REDACTED]. The equipment used will include [REDACTED]. Each [REDACTED] radio will continue to have [REDACTED]. Each [REDACTED] radio will continue to be operated with [REDACTED]. Google will continue to operate the [REDACTED]. In some tests, [REDACTED].

Google has been conducting similar tests under the existing grant of special temporary authority, and no disruptions have been noted. Grant of this STA Extension likewise will not adversely impact any authorized user of RF spectrum for the reasons stated below.

Antenna Specifications: Google will continue to use [REDACTED].² Google also will continue to [REDACTED].

Protection of specific users: Google's continued operations will not cause harmful interference to other users of the millimeter wave bands. We discuss each set of users below.

Commercial millimeter wave band users: Consistent with the analysis submitted with 0842-EX-ST-2014, neither [REDACTED] nor [REDACTED] will pose a risk of harmful interference to millimeter wave links.³

Additionally, Google's test site is well off-axis or separated physically and/or spectrally from other millimeter wave facilities.⁴ This physical and spectral separation reinforces that Google's operations will continue to pose no material risk of harmful interference to other commercial millimeter wave link users and will

¹ [REDACTED]

² In general, the minimum antenna gain required is 50 dBi. 47 C.F.R. §101.115. However, antenna gains of as low as 43 dBi are permitted if the operator employs a proportional reduction in power. See 47 C.F.R. §101.115 n.15. ("Antenna gain less than 50 dBi (but greater than or equal to 43 dBi) is permitted only with a proportional reduction in maximum authorized EIRP in a ratio of 2 dB of power per 1 dB of gain, so that the maximum allowable EIRP (in dBW) for antennas of less than 50 dBi gain becomes $+55-2(50-G)$, where G is the antenna gain in dBi.")

³ See File No. 0842-EX-ST-2014, Exhibit C, Technical Declaration at ¶¶ 5, 12-15, 17-37, Appendix 1.

⁴ See *id.* at Appendix 1.

continue to pose no material signal-to-noise loss for other authorized spectrum users.

International users: Because the test site is more than 700 kilometers away from U.S. borders, no international coordination is required.

Federal users: Google continues to be prepared to coordinate with the National Telecommunications and Information Administration to ensure that federal operations in the band do not experience harmful interference. In particular, Google has a coordination agreement in place with the National Radio Astronomy Observatory to ensure that its operations do not cause interference to radio astronomy observations at its Owens Valley location.

Google will continue to have the ability to [REDACTED]. First, [REDACTED]. [REDACTED]. Second, [REDACTED]. Third, the [REDACTED].

Finally, Google has already been conducting similar tests in this area under a grant of special temporary authority, and no disruptions have been noted.

Exhibit B - Technical Information:

Google requests confidential treatment of the following underlined text from Exhibit B that contain confidential and proprietary information regarding the proposed tests/experiments:

Applicant Name: Google Inc.
Applicant FRN: 0016069502

Legal Contact Details

Name of Contact	Aparna Sridhar
Contact Details	Counsel 25 Massachusetts Avenue NW, Ninth Floor Washington DC 20001

Technical Contact Details

Name of Contact	Jeff Gilbert
Contact Details	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: (650) 933-7471 Email: jegilbert@google.com

[REDACTED] Transmitter Equipment and Station Details

Equipment	[REDACTED]
Number of Terminals	[REDACTED]
Areas of Operation	Operation not to exceed 100 km from the following geographic centerpoint: <ul style="list-style-type: none"> • 40° 53' 55" N, 117° 48' 16" W

Frequency Range	High (MHz)	Low (MHz)
[REDACTED]	75790	75210
[REDACTED]	84790	84210
[REDACTED]	85790	85210

Radio	Modulation	Emission Designator	Bandwidth	Maximum Power Out	Maximum EIRP
[REDACTED]	Digital	580MD1D	580 MHz	0.631 W with 43 dBi antenna 0.200 W with 38 dBi antenna	41 dBW with 43 dBi antenna 31 dBW with 38 dBi antenna
[REDACTED] ^a	Digital	60M0D1D	60 MHz	0.631 W with 43 dBi antenna 0.200 W with 38 dBi antenna	41 dBW with 43 dBi antenna 31 dBW with 38 dBi antenna

^a This transmitter will operate within the broader frequency ranges described above in the "Frequency Range/Tolerance" table.

Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED] ^b
Gain	43 dBi
Beam Width at Half-Power Point	1.2 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED] ^b
Gain	38 dBi
Beam Width at Half-Power Point	2 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED] ^b
Gain	43 dBi
Beam Width at Half-Power Point	1.2 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

^b [REDACTED].

[REDACTED] Transmitter Equipment and Station Details

Equipment	[REDACTED]
Number of Terminals	[REDACTED]
Areas of Operation	Not to exceed 100 km from the following geographic centerpoint: <ul style="list-style-type: none"> • 40° 53' 55" N, 117° 48' 16" W

Frequency Range	High (MHz)	Low (MHz)
[REDACTED]	75790	75210
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Radio	Modulation	Emission Designator	Bandwidth	Maximum Power Out	Maximum EIRP
[REDACTED]	Digital	580MD1D	580 MHz	1.585 W	55 dBW
[REDACTED] ^c	Digital	60M0D1D	60 MHz	1.585 W	55 dBW

^c This transmitter will operate within the broader frequency ranges described above in the "Frequency Range/Tolerance" table.

Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED]
Gain	53 dBi
Beam Width at Half-Power Point	0.37 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

[REDACTED]

[REDACTED]

2. Identification of the Commission proceeding in which the information was submitted or a description of the circumstances giving rise to the submission.

The above-referenced Exhibits were submitted to the Commission in support of the STA Extension. These Exhibits were filed with the Office of Engineering and Technology on April 3, 2015. For additional information, please see 0377-EX-ST-2015.

3. Explanation of the degree to which the information is commercial or financial or contains a trade secret or is privileged.

The information requested to be kept confidential has significant commercial value. The details of the STA Extension tests/experiments may include trade secret information. The Commission has clarified that confidential treatment should be afforded to trade secrets.⁵ Google's tests/experiments and proprietary wireless applications using particular radio frequency equipment represent a "secret commercially valuable plan" within the meaning of a trade secret as recognized by the Commission.

In addition, agreements entered into between Google and the parties that provided equipment for testing or will provide analysis of test results require that confidential information of the parties be held in strict confidence, and that such information not be disclosed to any third party (with limited exceptions not applicable to this request). The manufacturer name and model number constitutes confidential trade secrets, technical information, and business information under the agreements.

4. Explanation of the degree to which the information concerns a service that is competitive.

The services and technologies that are the subject of this STA Extension have not yet been fully developed but are expected to lead to material developments in markets subject to competition from multiple U.S. and non-U.S. third parties.

5. Explanation of how disclosure of the information could result in substantial competitive harm.

The technology under development is highly sensitive and confidential in nature. The release of such information would provide valuable insight into Google's technology innovations and potential business plans and strategies. Public disclosure would jeopardize the value of the technology under examination by enabling others to utilize Google's information to develop similar products in a similar time frame.

⁵ *Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission*, Report and Order, GC Docket No. 96-55, at para. 3, (released Aug. 4, 1998) (defining "trade secrets" for purpose of Commission rules on confidential treatment).

6. Identification of any measures taken by the requesting party to prevent unauthorized disclosure.

Google has taken steps to keep confidential the information set forth in the confidential exhibits by limiting the number of people involved in the tests/experiments to only those on a “need to know” basis, and will require any third parties involved in the analysis execute robust nondisclosure agreements.

7. Identification of whether the information is available to the public and the extent of any previous disclosures of the information to any third parties.

The information contained in the confidential exhibits is not available to the public, and has only been disclosed to third parties pursuant to the restrictive safeguards described above.

Google voluntarily provides the information to the Commission at this time with the expectation that it will be treated confidentially in accordance with the Commission's rules. See *Critical Mass Energy Project v. Nuclear Regulatory Comm'n*, 975 F.2d 871, 879 (D.C. Cir. 1992) (commercial information provided on a voluntary basis “is ‘confidential’ for the purpose of Freedom of Information Act (FOIA) Exemption 4 if it is of a kind that would customarily not be released to the public by the person from whom it was obtained.”)

8. Justification of the requested period of confidentiality.

Google expects that confidential treatment will be necessary for the length of the proposed experiment and thereafter in order to protect its evolving business and technology strategies.

9. Any other information that would be useful in assessing whether this request should be submitted.

The information subject to this request for confidentiality should not be made available for public disclosure at any time. There is nothing material that public review of this information would add to the Commission's analysis of Google's request for an experimental authorization.

Moreover, public disclosure of the sensitive information in the confidential exhibits to the STA Extension after the Commission has ruled on the Request for Confidentiality is not necessary for the Commission to fulfill its regulatory responsibilities.

Consistent with 47 C.F.R. § 0.459(d)(1), Google requests notification if release of the information subject to this request is requested pursuant to the FOIA or otherwise, so that Google may have an opportunity to oppose grant of any such request.

Sincerely yours,



Aparna Sridhar

EXHIBIT A – NARRATIVE STATEMENT

Consistent with the standards set forth in Section 5.61 of the Federal Communications Commission’s (FCC’s or Commission’s) Rules, 47 C.F.R. § 5.61, Google Inc. (Google) outlines below its need for the requested extension of Special Temporary Authority (STA Extension) and the compelling reasons why 0377-EX-ST-2015 should be granted expeditiously.

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Google will continue to have the ability to [REDACTED]. First, [REDACTED]. [REDACTED]. Second, [REDACTED]. Third, the [REDACTED].

Finally, as noted, Google has already been conducting similar tests in this area under a grant of special temporary authority, and no disruptions have been noted.

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EXHIBIT B - TECHNICAL INFORMATION

Applicant Name: Google Inc.
Applicant FRN: 0016069502

Legal Contact Details

Name of Contact	Aparna Sridhar
Contact Details	Counsel 25 Massachusetts Avenue NW, Ninth Floor Washington DC 20001

Technical Contact Details

Name of Contact	Jeff Gilbert
Contact Details	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: (650) 933-7471 Email: jegilbert@google.com

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Orientation in Horizontal Plane	N/A
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Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED] ^b
Gain	38 dBi
Beam Width at Half-Power Point	2 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

Antenna Details	[REDACTED]
Type	[REDACTED]
Quantity	[REDACTED] ^b
Gain	43 dBi
Beam Width at Half-Power Point	1.2 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

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[REDACTED] Transmitter Equipment and Station Details

Equipment	[REDACTED]
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Areas of Operation	Not to exceed 100 km from the following geographic centerpoint: <ul style="list-style-type: none"> • 40° 53' 55" N, 117° 48' 16" W

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Antenna Details	[REDACTED]
Type	[REDACTED]
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Beam Width at Half-Power Point	0.37 degrees
Orientation in Horizontal Plane	N/A
Orientation in Vertical Plane	N/A

[REDACTED]

[REDACTED]