

Date: October 19, 2016

Subject: Public and Redacted Version of Request for Confidential Treatment and  
Complementary Exhibits

FCC File No: 1483-EX-ST-2016

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 application for Special Temporary Authority (STA) 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 and complementary exhibits. Google does not seek to withhold from public inspection information 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 Special Temporary Authority (STA) and the compelling reasons why 1483-EX-ST-2016 should be granted expeditiously.

Google requests that the STA be granted for a period of 180 days. The STA is needed for the demonstration and testing of a prototype device (Device) that is expected to enhance the development, application, and use of [REDACTED].

The Device consists of a [REDACTED]. To enable [REDACTED], the Device also has a [REDACTED]. Consistent with [REDACTED], the [REDACTED] in the Device will enable [REDACTED], as needed.

The Device will be used by professional Google employees and contractors. The Device also may be used by external trusted professional developers [REDACTED]. The Device is not intended to be used by general public. No commercial operations will be conducted under the requested authorization, and all Devices will be collected or destroyed at the end of the experimentation period.

The proposed testing does not create a material risk of harmful interference. The Device meets all Part 15 Class A and nearly all Class B device limits for electromagnetic compatibility and radio operations.<sup>1</sup> The Device exceeded Part 15 Class B device limits at two frequencies—43.4 MHz and 639.0 MHz—during unintentional radiated emission tests conducted by [REDACTED] at a distance of three meters.

Class B Device Limit <sup>2</sup>	[REDACTED] Test Result	Deviation
30-88 MHz = 100 $\mu$ V/m or 40 dB $\mu$ V/m	43.4 MHz = 45.9 dB $\mu$ V/m	5.9 dB
216-960 MHz = 200 $\mu$ V/m or 46 dB $\mu$ V/m	639.0 MHz = 53.0 dB $\mu$ V/m	7.0 dB

Because the unintentional radiated emission of the Device meets Class A device limits, and most residential digital devices are designed to be immune to electromagnetic interference at a much higher level as part of European Union EMC requirements,<sup>3</sup> there is little to no risk of generating harmful interference to other devices operating on these frequencies. Furthermore, tests and evaluations conducted by [REDACTED] have confirmed the Device's electrical, mechanical, thermal, optical and RF exposure (SAR) safety.

For these reasons, Google requests approval of this STA request.

<sup>1</sup> See 47 C.F.R. §15 Subparts B, C, and E.

<sup>2</sup> 47 C.F.R. §15.109(a).

<sup>3</sup> See IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE), *Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement*, CISPR 24:2010+A1:2015 (3V/m for this frequency range).

**Exhibit B - Technical Information:**

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

**Applicant Name:** Google Inc.  
**Applicant FRN:** 0016069502

**Legal Contact Details**

<b>Name of Contact</b>	Megan Anne Stull
<b>Contact Details</b>	Counsel 25 Massachusetts Avenue NW, Ninth Floor Washington DC 20001

**Technical Contact Details**

<b>Name of Contact</b>	Angie Du
<b>Contact Details</b>	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: 650-799-1437 Email: angiedu@google.com

**Transmitter #1 Information**

<b>Equipment</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Area of Operation</b>	Nationwide

<b>Frequency Range</b>	<b>Low (GHz)</b>	<b>High (GHz)</b>
[REDACTED]	2.400	5.800

Equipment	Modulation	Emission Designator	Bandwidth (MHz)	Output Power (Watts)	ERP (Watts)
[REDACTED]	Digital	13M1F1D 16M3F1D 17M4D2D 36M2D2D	13.1 16.3 17.4 36.2	0.1490	0.2110
[REDACTED]	Digital	980KF1D 1M21F1D 1M10F1D	0.98 1.21 1.10	0.0019	0.0024

*Transmitter #1 Antenna*

<b>Type</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Gain</b>	5.4 dBi max
<b>Beam Width at Half-Power Point</b>	Not applicable
<b>Orientation in Horizontal Plane</b>	Not applicable
<b>Orientation in Vertical Plane</b>	Not applicable

**Transmitter #2 Information**

<b>Equipment</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Area of Operation</b>	Nationwide

Frequency Range	Low (GHz)	High (GHz)
[REDACTED]	2.402	2.480

Equipment	Modulation	Emission Designator	Bandwidth (MHz)	Output Power (Watts)	ERP (Watts)
[REDACTED]	Digital	1M27F1D	1.27	0.0027	0.0042

*Transmitter #2 Antenna*

<b>Type</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Gain</b>	4.1 dBi max
<b>Beam Width at Half-Power Point</b>	Not applicable
<b>Orientation in Horizontal Plane</b>	Not applicable
<b>Orientation in Vertical Plane</b>	Not applicable

**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. These Exhibits were filed with the Office of Engineering and Technology on October 19, 2016. For additional information, please see File No. 1483-EX-ST-2016.

**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 tests/experiments may include trade secret information. The Commission has clarified that confidential treatment should be afforded to trade secrets.<sup>4</sup> 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 any 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.

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<sup>4</sup> *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).

**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 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.

**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 by requiring any third parties involved in the testing process to 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 restrictive safeguards.

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 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)(l), 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,

A handwritten signature in blue ink that reads "Megan Anne Stull". The signature is written in a cursive, flowing style.

Megan Anne Stull

**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 Special Temporary Authority (STA) and the compelling reasons why 1483-EX-ST-2016 should be granted expeditiously.

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<sup>3</sup> See IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components (IECEE), *Information Technology Equipment – Immunity Characteristics – Limits and Methods of Measurement*, CISPR 24:2010+A1:2015 (3V/m for this frequency range).



**EXHIBIT B - TECHNICAL INFORMATION**

**Applicant Name:** Google Inc.  
**Applicant FRN:** 0016069502

**Legal Contact Details**

<b>Name of Contact</b>	Megan Anne Stull
<b>Contact Details</b>	Counsel 25 Massachusetts Avenue NW, Ninth Floor Washington DC 20001

**Technical Contact Details**

<b>Name of Contact</b>	Angie Du
<b>Contact Details</b>	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: 650-799-1437 Email: angiedu@google.com

**Transmitter #1 Information**

<b>Equipment</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Area of Operation</b>	Nationwide

<b>Frequency Range</b>	<b>Low (GHz)</b>	<b>High (GHz)</b>
[REDACTED]	2.400	5.800

<b>Equipment</b>	<b>Modulation</b>	<b>Emission Designator</b>	<b>Bandwidth (MHz)</b>	<b>Output Power (Watts)</b>	<b>ERP (Watts)</b>
[REDACTED]	Digital	13M1F1D 16M3F1D 17M4D2D 36M2D2D	13.1 16.3 17.4 36.2	0.1490	0.2110
[REDACTED]	Digital	980KF1D 1M21F1D 1M10F1D	0.98 1.21 1.10	0.0019	0.0024

*Transmitter #1 Antenna*

<b>Type</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Gain</b>	5.4 dBi max
<b>Beam Width at Half-Power Point</b>	Not applicable
<b>Orientation in Horizontal Plane</b>	Not applicable
<b>Orientation in Vertical Plane</b>	Not applicable

**Transmitter #2 Information**

<b>Equipment</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Area of Operation</b>	Nationwide

<b>Frequency Range</b>	<b>Low (GHz)</b>	<b>High (GHz)</b>
[REDACTED]	2.402	2.480

<b>Equipment</b>	<b>Modulation</b>	<b>Emission Designator</b>	<b>Bandwidth (MHz)</b>	<b>Output Power (Watts)</b>	<b>ERP (Watts)</b>
[REDACTED]	Digital	1M27F1D	1.27	0.0027	0.0042

*Transmitter #2 Antenna*

<b>Type</b>	[REDACTED]
<b>Quantity</b>	[REDACTED]
<b>Gain</b>	4.1 dBi max
<b>Beam Width at Half-Power Point</b>	Not applicable
<b>Orientation in Horizontal Plane</b>	Not applicable
<b>Orientation in Vertical Plane</b>	Not applicable