Date: August 15, 2020

Subject: Public and Redacted Versions of Request for Confidential Treatment and Complementary Exhibit

To Whom It May Concern:

Google, pursuant to 5 U.S.C. § 552 and Rules 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 a New Experimental Radio Service License (Experimental License) 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 Experimental License and complementary Exhibit A. Google does not seek to withhold from public inspection information necessary for interference mitigation, including applicant name, contact information, test locations (Exhibit B), frequency, output power, effective radiated power, emission characteristics and modulation.

EXHIBIT A - NARRATIVE STATEMENT AND TECHNICAL INFORMATION

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

Narrative Statement

Consistent with 47 C.F.R. § 5.63, Google requests authorization to conduct radio experiments in and near the 6 GHz band (5650 MHz - 7125 MHz). Google outlines below its need for the requested authorization and the reasons why it should be granted expeditiously.

Google proposes to conduct experimental propagation testing in the 6 GHz band to produce technical information relevant to the utility of these frequencies for providing reliable broadband connections. In any given area of operation (*see* Exhibit B), the experimental testing will usually consist of [REDACTED] emitting a constant signal of various bandwidths (including continuous waveform and wider bandwidths to study

selective fading) and [REDACTED] measuring the signal characteristics across a wide range of terrain and clutter scenarios, and over various times. A goal of these experimental tests is to potentially improve propagation models for incorporation in Automatic Frequency Coordination (AFC) systems to support unlicensed spectrum use in the 6 GHz band.

The proposed experimental operations will be conducted without harmful interference to other authorized users for the following reasons:

1. Google will apply the technical principles and interference criteria laid out in the new 6 GHz rules[1] to ensure co-existence with fixed service links.
2. Our propagation testing will be sparse in time and location, generally occurring in [REDACTED].
3. In the 5650-5925 MHz segment, which is allocated on a primary basis to government radiolocation and on a secondary basis to amateur radio, the proposed operations will be less of an interference threat than amateur radio operations. In most amateur service bands, including this one, amateur radio operations are limited to 1500 W conducted power, but have no limits on EIRP. Our requested conducted power ranges from 20-160 W max, and in practice will generally be 5-50 W, some 30-300 times less than the power allowed for secondary amateur radio operations in the same band.
4. We will avoid outdoor operations in the U-NII 6 and U-NII 8 bands (6425-6525 MHz and 6875-7125 MHz, respectively) which are allocated on a primary basis to the mobile service.

For the foregoing reasons, Google requests approval of this application.

Legal Contact

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25 Massachusetts Avenue NW, Ninth Floor
Washington, DC 20001
(202) 346-1208
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[1] *See* 47 C.F.R. §§ 15.407(k)-(n).

Technical Contact

Andrew Clegg
1900 Reston Metro Plaza, Suite 1400
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(202) 215-4364
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Transmitter Equipment and Station Details

Radio Information

Equipment	[REDACTED]
Quantity	[REDACTED]
Areas of Operation	Operations vary from 7 km to 40 km from the geographic centerpoint of each test area. *See* Exhibit B for the proposed areas of operation.
Frequency	5650 MHz - 7125 MHz

Amplifier Information

Equipment	[REDACTED]
Quantity	[REDACTED]

Antenna Information

Equipment	[REDACTED]
Type	Both directional and omnidirectional antennas will be used.
Gain	3 - 30 dBi
Beam Width at Half-Power Point	Various (2° to 360°)
Orientation in Horizontal Plane	Various (0° to 360°)
Orientation in Vertical Plane	0°

Transmitter Information

Radio	Modulation	Emission Designator	Bandwidth	Max Output Power	Max EIRP and ERP[2]
[REDACTED] with 30 dBi antenna	Continuous Waveform	10H0N0N	10 Hz	50 W	EIRP = 47 dBW (50 kW)[3] ERP = 44.9 dBW (31 kW)
[REDACTED] with 17 dBi antenna	Digital	20M0G7D	20 MHz	20 W	EIRP = 30 dBW (1000 W) ERP = 27.9 dBW (611 W)
[REDACTED] with 17 dBi antenna	Digital	40M0G7D	40 MHz	40 W	EIRP = 33 dBW (2000 W) ERP = 30.9 dBW (1222 W)
[REDACTED] with 17 dBi antenna	Digital	80M0G7D	80 MHz	80 W	EIRP = 36 dBW (4000 W) ERP = 33.9 dBW (2444 W)
[REDACTED] with 17 dBi antenna	Digital	100MW7D	100 MHz	100 W	EIRP = 37 dBW (5000 W) ERP = 34.9 dBW (3050 W)
[REDACTED] with 17 dBi antenna	Digital	160MW7D	160 MHz	160 W	EIRP = 39 dBW (8000 W) ERP = 36.9 dBW (4888 W)

[2] The max EIRP/ERPs listed here for the broadband (W7D) emissions are the absolute worst-case combination of max conducted power and max antenna gain. In practice, the proposed testing will not be using EIRP/ERPs anywhere near these values. Typical EIRPs will generally be in the 30-50 W range (i.e., ~3-5 W conducted combined with a 10 dBi gain antenna), regardless of bandwidth. However, under some circumstances (for example, detailed studies of frequency-selective fading), high EIRPs may be needed to achieve sufficient sensitivity. These situations will be infrequent.

[3] Operation at this EIRP would only be conducted using highly directional narrow-beam antennas, and only for the specific purpose of testing tropospheric propagation over low-elevation paths, while avoiding directions towards the geostationary arc. Such operations are expected to be extremely limited. Typical Continuous Waveform operations for general propagation testing would use EIRP values of ~30-50 W.

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

The confidential Exhibit A was submitted to the Commission in support of the Experimental License. For additional information, please see File No. 0696-EX-CN-2020.

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 Experimental License include trade secret information. The Commission has clarified that confidential treatment should be afforded to trade secrets.[4] 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.

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 Experimental License 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.

[4] *In the Matter of Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission*, Report and Order, 13 FCC Rcd. 24816, ¶ 3 (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 Exhibit A 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 Exhibit A 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 Exhibit A to the Experimental License 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,

Megan Anne Stull
Counsel

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