

Date: August 12, 2014
Subject: Public and Redacted Version of Request for Confidential Treatment and
Complementary Exhibits
FCC File Number: 0709-EX-ST-2014

To Whom It May Concern:

Titan Aerospace ("Titan"), 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 Application") 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, Titan'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, Titan provides the following information:

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

Titan's request for confidential treatment is limited to the following information that has been redacted from the STA Application and complementary exhibits:

Application:

Manufacturer	Model No.	Units
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

Titan does not seek to withhold from public inspection information in the STA Application necessary for interference mitigation, including applicant name, contact information, test location, frequency, output power, effective radiated power, emission characteristics and modulation.

Exhibit A - STA Application Justification:

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

Titan Aerospace ("Titan"), pursuant to Section 5.61 of the Federal Communications Commission's ("FCC's" or "Commission's") Rules, 47 C.F.R. § 5.61, hereby requests

Special Temporary Authority ("STA") to conduct demonstrations of experimental transmitters. The STA is sought for a period of 180 days beginning on September 8, 2014. Consistent with the standards set forth in Rule 5.61, Titan outlines below its need for the requested STA and the reasons that the STA should be granted expeditiously.

Titan Aerospace specializes in developing solar and electric unmanned aerial systems ("UAS") for high altitude, long endurance flights. These systems may eventually be used to provide Internet connections in remote areas or help monitor environmental damage, such as oil spills or deforestation. The STA is needed for demonstration and testing of [REDACTED]

[REDACTED]

Timely grant of this STA request will serve the public interest by allowing Titan to test and demonstrate [REDACTED]

Grant of this experimental STA will not adversely impact any authorized user of RF spectrum. [REDACTED]

[REDACTED]

Telebeeper of New Mexico (call sign WPVD775) has a license for adjacent frequencies (459.6375-459.6625 MHz), but this license is limited to the Hobbs, New Mexico, Bureau of Economic Analysis Economic Area. Hobbs is 370 kilometers from the center of the test site.

The State of New Mexico uses the spectrally separated 460.015-460.035 MHz frequencies for a youth probation and parole facility in Albuquerque. The fixed location for this license (call sign KNEN254) is located at 35°-07'-12.2" N, 106°-38'-48.1" W, just west of the center of Albuquerque. The mobile station is registered as a 32.0 kilometer radius around the fixed location. The point in the State's license area closest to Titan's operation is 12.3 kilometers away from the edge of the test site. As a result, there is no geographical overlap between the State's operations and the proposed experimentation.

There is a federal allocation for meteorological satellite use from 460 MHz to 470 MHz. As noted above, Titan will maintain a separation of at least 37 kHz from those operations. [REDACTED]. In all circumstances, operation of the proposed transmitters will be limited to the requested geographic coordinates. There are no other commercial or government satellite or aircraft operations in spectral *and* physical proximity to the proposed test area and frequencies.

Exhibit B - Technical Information:

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

Applicant Name: Titan Aerospace
Applicant FRN: 0021860408

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:	Charles Hall
Contact Details:	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: 856-553-5056 Email: charleshall@google.com

[REDACTED]

Equipment Manuf / PN:	[REDACTED]
Number:	[REDACTED]
Area of Operation	Operation will be confined to the area delimited by: • 35:14:21 N 106:09:53 W • 35:14:21 N 105:45:53 W • 34:54:21 N 105:45:53 W • 34:54:21 N 106:09:53 W

Radio	Modulation	Emission Designator	Bandwidth	Power Out	EIRP
[REDACTED]	Digital	25K0F1D	25 kHz	10 W	43 dBm

Antenna Details	
Type	[REDACTED]

Quantity	[REDACTED]
Gain	Approximately +3 dBi
Beam Width at Half-Power Point	Approximately 30 degrees vertical; omnidirectional horizontal
Orientation in Horizontal Plane	Omnidirectional
Orientation in Vertical Plane	Peak Gain is 20 degrees below horizon

Terrestrial Transmitter Equipment and Station Details

Equipment Manuf / PN:	[REDACTED]
Number:	[REDACTED]
Area of Operation	Operation will be confined to the area delimited by: • 35:14:21 N 106:09:53 W • 35:14:21 N 105:45:53 W • 34:54:21 N 105:45:53 W • 34:54:21 N 106:09:53 W

Frequency Range / Tolerance	High (MHz)	Low (MHz)
[REDACTED]	459.9626	459.6626

Radio	Modulation	Emission Designator	Bandwidth	Power Out	EIRP
[REDACTED]	Digital	25K0F1D	25 kHz	10 W	23 dBW

Antenna Details	
Type	[REDACTED]
Quantity	[REDACTED]
Gain	13 dBi
Beam Width at Half-Power Point	45 degrees vertical; 40 degrees horizontal
Orientation in Horizontal Plane	0-360 degrees
Orientation in Vertical Plane	5-90 degrees above the ground plane

Antenna Details	
Type	[REDACTED]
Quantity	[REDACTED]
Gain	+2 dBi
Beam Width at Half-Power Point	78 degrees vertical; omnidirectional horizontal
Orientation in Horizontal Plane	Omnidirectional
Orientation in Vertical Plane	Peak gain is parallel to the horizon

FAA Notification

Titan acknowledges that the launch and operation of unmanned aerial systems ("UAS") requires notice and coordination with the Federal Aviation Administration ("FAA") pursuant to Subpart D of 14 C.F.R. Part 101. Titan will satisfy FAA notice and coordination requirements specified in 14 C.F.R. § 101.37 and § 101.39 prior to the launch of any UAS involved in the proposed tests. In addition, Titan will ensure compliance with the operating limitations and equipment marking requirements specified in 14 C.F.R. § 101.33 and § 101.35.

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 Application. These Exhibits were filed with the Office of Engineering and Technology on August 12, 2014. For additional information, please see File No. 0709-EX-ST-2014.

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 Application tests/experiments may include trade secret information. The Commission has clarified that confidential treatment should be afforded to trade secrets.¹ Titan'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.

¹ *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).

In addition, agreements entered into between Titan 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 Application 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 Titan'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 Titan'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.

Titan 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 that all third parties involved in the preliminary 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.

Titan 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.

Titan 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 Titan’s request for an experimental authorization.

Moreover, public disclosure of the sensitive information in the confidential exhibits to the STA Application 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), Titan requests notification if release of the information subject to this request is requested pursuant to the FOIA or otherwise, so that Titan may have an opportunity to oppose grant of any such request.

Sincerely yours,



Aparna Sridhar

EXHIBIT A – SPECIAL TEMPORARY AUTHORITY JUSTIFICATION

Titan Aerospace (“Titan”), pursuant to Section 5.61 of the Federal Communications Commission’s (“FCC’s” or “Commission’s”) Rules, 47 C.F.R. § 5.61, hereby requests Special Temporary Authority (“STA”) to conduct demonstrations of experimental transmitters. The STA is sought for a period of 180 days beginning on September 8, 2014. Consistent with the standards set forth in Rule 5.61, Titan outlines below its need for the requested STA and the reasons that the STA should be granted expeditiously.

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EXHIBIT B - TECHNICAL INFORMATION

Applicant Name: Titan Aerospace
Applicant FRN: 0021860408

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:	Charles Hall
Contact Details:	1600 Amphitheatre Parkway Mountain View, CA 94043 Phone: 856-553-5056 Email: charleshall@google.com

[REDACTED]

Equipment Manuf / PN:	[REDACTED]
Number:	[REDACTED]
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