

FP/ea

E070139 SES-STA-20110427-00518
Tachyon Networks Incorporated. IE2011001230

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

1721

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
SES Tachyon STA Request New 18 inch Stationary Remote Terminal

I. Applicant

Name:	Tachyon Networks Incorporated.	Phone Number:	858-882-8114
DBA Name:		Fax Number:	202-416-7138
Street:	9339 Carroll Park Drive Suite 150	E-Mail:	dan.negroni@tachyon.net
City:	San Diego	State:	CA
Country:	USA	Zipcode:	92121
Attention:	Mr Daniel Negroni		

"30 days" with conditions



File# SES-STA-20110427-00518

Call Sign E070139 Grant Date 05/19/2011
(or other identifier)

Term Dates
From 05/23/2011 To 06/31/2011

Approved: Paul E. Hayes

Conditions:
Tachyon
SES-STA-20110427-00518

Tachyon is granted, under the following conditions, Special Temporary Authority for 30 days, from May 23, 2011 through June 21, 2011, to operate a VSAT terminal as described in Exhibit A of the SES-STA-20110427-00518 filing. Based on the following conditions:

1. This is not an authorization of an Aeronautical Earth Station (AES) or Aeronautical Mobile Satellite Service (AMSS).
2. Transmissions may only occur while the earth station is in not in motion.
3. Appropriate safety protocols must be in place prior to the operation of the VSAT terminal to ensure that persons having access to areas where radiofrequency energy in excess of the maximum permissible limits specified in 47 C.F.R. § 1.1310 are not exposed. The exterior surface of the antenna shall be prominently marked with a sign warning of the potential for exposure to high levels of radiofrequency energy.
4. Transmission to and reception from Intelsat Horizons 22 satellite at 74.05 W. L. is granted only for the period of this authorization (thirty days).
5. Uplink to Intelsat Horizons 22 within the band 14.2-14.47 GHz within coordinated emission and power limits.
6. Downlink from Intelsat Horizons 22 within the band 11.7-12.2 GHz.
7. Operations shall be on an unprotected and on non-interfering basis.
8. In the event of any harmful interference, Tachyon shall cease operations immediately and shall inform the Commission, in writing, immediately of such an event.
9. This authorization is not one relating to an "activity of a continuing nature" for purposes of 47 C.F.R. § 1.62 and 5 U.S.C. § 558(c).
10. Grant of authority requested will serve the public interest by permitting Tachyon to conduct performance aircraft integration static testing on U.S. Government aircraft.
11. Future authorizations that begin to test AES/AMSS operation must be authorized under FCC experimental license under the following conditions:
 - a. Authorization will be granted only for the continental United States and over its territorial waters, linking with the specified satellites in the 11.7-12.2 GHz and 14.0-14.4 GHz frequency bands, consistent with the specifications in compliance with the Commission's rules, except insofar as waived herein, and subject to the following conditions:

- i. The stations authorized herein must be operated in compliance with any rules subsequently adopted by the Commission.
- ii. The licensee must accept interference from lawful operation of any station in the 11.7-12.2 GHz band in accordance with the U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106, and shall immediately terminate operations upon notification that such operations are causing harmful interference, not permitted under the terms of a coordination agreement, with lawful operation of any radio system in the 11.7-12.2 GHz band in conformance with the U.S. Table of Frequency Allocations.
- iii. In the event that another co-frequency GSO FSS satellite commences operation at a location within six degrees of the specified satellites, Tachyon shall cease operation of its AMSS system unless its AMSS operation has been coordinated with the new satellite's operator or Panasonic has demonstrated that its AMSS operation will not cause harmful interference to the new co-frequency satellite.
- iv. In the event that a co-frequency NGSO satellite system commences operation, Tachyon shall cease AMSS operation unless such operation has been coordinated with the operator of the NGSO system or Tachyon has demonstrated that its AMSS operation will not cause harmful interference to the NGSO system.
- v. Operation of an aircraft earth station authorized herein shall immediately terminate upon notification that such operation is causing harmful interference, not permitted under the terms of coordination agreements, with (1) lawful operation of any radio system in the 14.0-14.5 GHz band authorized on a primary basis in conformance with the U.S. Table of Frequency Allocations or authorized on a secondary basis prior to the effective date of this order, or (2) operation of any TDRSS earth station in the band 14-14.2 GHz, or (3) radio astronomy observations in the 14.47-14.5 GHz band.
- vi. The licensee shall maintain a point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein, for discussing interference concerns with other licensees and U.S. Government agencies, and shall submit a letter to be included in its license file with the name and telephone number of the point of contact prior to commencing operation.
- vii. Aircraft earth stations authorized herein must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.
- viii. Aircraft earth stations authorized herein must be monitored and controlled by a ground-based network control and monitoring center. Such stations must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving any "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each aircraft earth

station to determine if it is malfunctioning, and each aircraft earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.

- ix. Operation in the 11.7-12.2 GHz band shall be in accordance with the space station authorization.
- x. Stations authorized herein shall not be used to provide air traffic control communications.
- xi. Licensee's AMSS system shall operate in compliance with any limits established by the International Telecommunication Union (ITU) to protect other services allocated internationally.
- xii. Operation pursuant to this authorization shall conform to the requirements of Tachyon's coordination agreements with NASA and NSF and with the terms of coordination agreements between the operator of specified satellites and operators of other Ku-band geostationary satellites within six angular degrees of specified satellites.
- xiii. For a period of one year from the release of this order, the licensee shall maintain records of the following data for each operating AES: location (latitude, longitude, altitude); aircraft attitude (pitch, yaw, roll); transmit frequency and occupied bandwidth; data rate; EIRP; and target satellite. This data shall be recorded at intervals of no more than two minutes while an AES is transmitting and every 30 seconds when aircraft roll angle is greater than 10 degrees. The licensee shall also record instances when AES pointing error exceeds 0.2 degrees. The licensee shall make this data available upon request to an FSS system operator or the Commission within 24 hours after receiving the request.
- xiv. Tachyon shall take all reasonable and customary measures to prevent human exposure to harmful non-ionizing radiation exceeding the maximum permissible exposure limits in Section 1.1310 of the Commission's rules, 47 C.F.R. § 1.1310. The exterior surface of the antenna shall be prominently marked with a warning of the potential for exposure to high levels of radiofrequency energy.

"30 days" with conditions



File # SES-STA-20110427-00518

Call Sign E070139 Grant Date 05/19/2011
(or other identifier)

Term Dates
From 05/23/2011 To 06/21/2011

Approved: Paul E. Black

2. Contact

Name: Jeremy Guralnick **Phone Number:** 619-252-4158
Company: Tachyon Networks, Inc. **Fax Number:** 858 882-8122
Street: 9339 Carrol Park Drive **E-Mail:** jg@tachyon.net
City: San Diego **State:** CA
Country: USA **Zipcode:** 92121 -
Attention: **Relationship:** Engineer

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)

3. Reference File Number or Submission ID

4a. Is a fee submitted with this application?

If Yes, complete and attach FCC Form 159. IF No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity Noncommercial educational licensee

Other (please explain):

4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant

Change Station Location

Other

6. Requested Use Prior Date

7. City/Middletown

8. Latitude
(dd mm ss.s h) 0 0 0.0

9. State DE	10. Longitude (dd mm ss.s h) 0 0 0.0
11. Please supply any need attachments. Attachment 1: CoverLetter.pdf Attachment 2: PSDAnalysis.pdf Attachment 3: RadiationStudy.pdf	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) Tachyon, Inc. herein requests a grant of Special Temporary Authority for 30 days, from May 16, 2011 through June 15, 2011, to test a new 18 inch remote terminal communicating with an Intelsat-owned, U.S.-licensed hub -- call sign E070139 located in Hagerstown, Maryland -- in the frequency bands 11.7-12.2 GHz and 14.0-14.5 GHz. The remote terminal will	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes. <input checked="" type="radio"/> Yes <input type="radio"/> No	
14. Name of Person Signing Jeremy Guralnick	15. Title of Person Signing VP Business Development
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

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THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.

12. Description

Tachyon, Inc. herein requests a grant of Special Temporary Authority for 30 days, from May 16, 2011 through June 15, 2011, to test a new 18 inch remote terminal communicating with an Intelsat-owned, U.S.-licensed hub -- call sign E070139 located in Hagerstown, Maryland -- in the frequency bands 11.7-12.2 GHz and 14.0-14.5 GHz. The remote terminal will communicate with Intelsat

April 26, 2011

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority to Test
Remote Terminal with Hagerstown, Maryland Hub E070139

Dear Ms. Dortch:

Tachyon, Inc. ("Tachyon") herein requests a grant of Special Temporary Authority ("STA")¹ for 30 days, from May 16, 2011 through June 15, 2011, to test a new 18" remote terminal communicating with an Intelsat-owned, U.S.-licensed hub -- call sign E070139 located in Hagerstown, Maryland -- in the frequency bands 11.7-12.2 GHz and 14.0-14.5 GHz. The remote terminal will communicate with Intelsat's Horizons 2 satellite located at 74.05° W.L.

With the acceptance of this request, Tachyon intends to test this VSAT network beginning May 2, 2011 for potential use as part of an existing mobile aeronautical service currently provided outside the United States to a U.S. Government customer.

During the testing, the remote terminal will be located at Summit Airport in Middletown, Delaware. The antenna will be tested while mounted on the roof of a hanger, as well as while mounted on a stationary aircraft.

In support of this request, Tachyon herein provides the attached technical information that demonstrates that the operation of the remote terminal will not cause harmful interference into any lawfully operating facility. The hub station, E070139, will operate in accordance with the coordinated parameters of its current license. In the extremely unlikely event that harmful interference should occur, Tachyon will take all reasonable steps to eliminate the interference.

Grant of this STA request will enable Tachyon to test this new antenna to determine whether it may be incorporated into the existing U.S. Government service offering. As such, the grant of this STA is in the public interest.

¹ Tachyon has filed this STA request, an FCC Form 159, a \$175.00 filing fee and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

Please direct any questions regarding this STA request to the undersigned at (619) 252-4158.

Respectfully submitted,

Jeremy Guralnick
VP Business Development

cc: Paul Blais
Frank Peace