

S2862 SAT-STA-20160803-00076 IB2016001788
Terra Bella Technologies Inc.
SkySat 4-7



*see attachment

File # SAT-STA-20160803-00076

Call Sign S2862 Grant Date 03/14/16

(or other identifier)

Term Dates period of
From 03/15/16 To 30 days

Approved:

Stephen J. Duall
Stephen J. Duall
Chief, Satellite Policy Branch

Approved by OMB
3060-0678

Date & Time Filed: Aug 3 2016 2:17:50:556PM
File Number: SAT-STA-20160803-00076
Callsign:

FEDERAL COMMUNICATIONS COMMISSION
APPLICATION FOR SPACE STATION SPECIAL TEMPORARY AUTHORITY

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APPLICANT INFORMATION


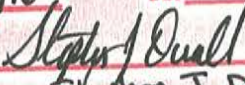
Enter a description of this application to identify it on the main menu:
Terra Bella Request for STA to Modify Telemetry Downlink Frequencies

1. Applicant

Name:	Terra Bella Technologies Inc.	Phone Number:	202-346-1100
DBA Name:		Fax Number:	
Street:	1061 Terra Bella Avenue	E-Mail:	selmer@google.com
City:	Mountain View	State:	CA
Country:	USA	Zipcode:	94043
Attention:	Stephanie Selmer		

Terra Bella Technologies Inc.
IBFS File No. SAT-STA-20160803-00076
Call Sign S2862

Operations of the SkySat4-7 satellites under this grant of authority must be in accordance with the technical specifications set forth in Terra Bella's application for special temporary authority and the conditions placed on the authorization for the SkySat 4-12 satellites, IBFS File No. SAT-MOD-20150408-00019 (granted August 31, 2016).¹

 GRANTED International Bureau	File # <u>SAT-STA-20160803-00076</u>
	Call Sign <u>S2862</u> Grant Date <u>09/14/16</u>
	(or other identifier)
	Term Dates <u>period of</u>
	From <u>09/15/16</u> To: <u>30 days</u>
	Approved: <u></u> Stephen J. Duall Chief, Satellite Policy Branch

* see this attachment

¹ See IBFS File No. SAT-MOD-20150408-00019 (granted August 31, 2016).

2. Contact	
Name: Timothy L. Bransford Company: Morgan, Lewis & Bockius LLP Street: 2020 K Street NW City: Washington Country: USA Attention:	Phone Number: 202-373-6140 Fax Number: E-Mail: timothy.bransford@morganlewis.com State: DC Zipcode: 20006 -1806 Relationship: Legal Counsel
(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 SATMOD2015040800019 or Submission ID	
4a. Is a fee submitted with this application? <input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114). <input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee <input type="radio"/> Other (please explain):	
4b. Fee Classification CXW – Space Station (Non-Geostationary)	
5. Type Request <input type="radio"/> Change Station Location <input type="radio"/> Extend Expiration Date <input checked="" type="radio"/> Other	
6. Temporary Orbit Location	7. Requested Extended Expiration Date

8. 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.)		
Terra Bella requests special temporary authority for short-term modification of the telemetry downlink frequencies of four commercial remote sensing satellites, SkySat-4 through SkySat-7, while they are brought into service after launch. Please see Exhibit A for additional description.		
9. 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. <div style="float: right; text-align: right;"> <input checked="checked" type="radio"/> Yes <input type="radio"/> No </div>		
10. Name of Person Signing Austin Schlick	11. Title of Person Signing Director, Communications Law	
12. Please supply any need attachments.		
Attachment 1: Exhibit A	Attachment 2:	Attachment 3:
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.

EXHIBIT A - NARRATIVE STATEMENT

Terra Bella Technologies Inc. (Terra Bella), pursuant to Section 25.120 of the Federal Communications Commission's (FCC's or Commission's) Rules, 47 C.F.R. § 25.120, hereby requests Special Temporary Authority (STA) for short-term modification of the telemetry downlink frequencies on four commercial remote sensing satellites, SkySat-4 through SkySat-7, while they are brought into service after launch. The satellites are scheduled to be launched on September 15, 2016 (pending Commission approval in File No. SAT-MOD-20150408-00019).

To accommodate possible launch delays, the STA is sought for a period of 30 days commencing on September 15, 2016. The requested temporary authority, however, would be utilized only until routine communications links with the satellites are established, which is likely to be a period of no more than two weeks after launch. Terra Bella outlines below its need for the requested STA and the reasons that this request should be granted expeditiously.

Terra Bella currently operates three commercial remote sensing satellites, SkySat-1 through SkySat-3, under FCC Call Sign S2862, as part of a non-geostationary orbit (NGSO) Earth Exploration Satellite Service (EESS) high-resolution imagery satellite system.¹ An application to modify the authorization to include 12 additional satellites, SkySat-4 through SkySat-15, on the system is pending.² The requested STA would apply to SkySat-4 through SkySat-7, which are expected to be launched on September 15, 2016, subject to the Commission's approval of the license modification. The primary earth station for the system is located in Fairbanks, Alaska (Call Sign E120025).³

On the launch date, SkySat-4 through SkySat-7 will be released by the launch vehicle in a cluster that is so closely spaced that ordinary telemetry transmissions from the different satellites—which will use the same frequencies—would be indistinguishable at earth stations for the first few days on-orbit. To facilitate the identification and monitoring of each individual satellite, Terra Bella therefore requests authority to temporarily modify the telemetry downlink frequency (Channel ID TTC1) for each of the new satellites to a frequency that is unique but close to the frequency authorized for operations under Call Sign S2862. Without the requested modification, all four satellites could be transmitting at the same time, on the same frequency, and thus interfering with each other.

Specifically, Terra Bella requests authority to assign each of the four new satellites one of the following frequencies for telemetry transmissions immediately after launch:

- 8374.50 MHz
- 8374.75 MHz
- 8375.25 MHz
- 8375.50 MHz

¹ File No. SAT-LOA-20120322-00058 (SkySat-1 and SkySat-2) and File No. SAT-MOD-20150408-00019 (SkySat-3).

² File No. SAT-MOD-20150408-00019. The launch and operation of SkySat-3 was approved on June 6, 2016, when the Commission granted Terra Bella's request in part and deferred it in part. Approval of SkySat-4 through SkySat-15 remains outstanding.

³ File No. SES-LIC-INTR2012-00457.

Each of the proposed frequencies is within the 8025-8400 MHz band allocated to EESS as well as within 500 kHz of the telemetry downlink frequency of 8375.00 MHz currently authorized for Call Sign S2862. Assuming nominal conditions, after approximately two weeks the satellite orbits will have diverged enough so that the earth stations are able to distinguish each individual satellite. At that time, the satellites will be commanded to transmit on the licensed frequency of 8375.00 MHz for permanent operations.

Terra Bella incorporates by reference all of the technical showings it made in the license modification application (both on Form 312, Schedule S, and in Exhibit 43), and confirms that operation under this STA will not vary from such parameters with the exception of narrowband telemetry signals identified herein. The temporary frequencies would be no less compatible with other satellite missions than the licensed frequency, since they are narrowband and in close proximity to the currently authorized telemetry downlink frequency of 8375.00 MHz. There would also be no changes to other parameters currently authorized for operations under Call Sign S2862, including modulation, bandwidth, and power of the telemetry transmitters.

Grant of this STA will serve the public interest by facilitating Terra Bella's operation of four additional, high-resolution imagery satellites that are complementary to the existing satellites, SkySat-1, SkySat-2, and SkySat-3, thereby enhancing competition and expanding U.S. capabilities in the market for commercial remote sensing data. Terra Bella's innovative approach—using small, lightweight, and low-cost satellites—allows the company to meet the growing demand for high resolution imagery in a cost-effective, timely manner, and deployment of the proposed satellites will further enhance Terra Bella's EESS capabilities.

In summary, and on the basis of the information provided herein and in File No. SAT-MOD-20150408-00019, Terra Bella requests special temporary authority to modify the telemetry downlink frequencies on four commercial remote sensing satellites, SkySat-4 through SkySat-7, for a period of 30 days commencing on the expected launch date of September 15, 2016.