

S2933 SAT-STA-20151104-00075 IB2015002114
Skynet Satellite Corporation
Telstar 12V



File # SAT-STA-2015 1104-00075

Call Sign S2933 Grant Date 11/19/15

(or other identifier)

Term Dates period of
From 12/01/15 To: 30 days

Approved by OMB
3060-0678

Approved: Stephen J. Duall

Stephen J. Duall
Chief, Satellite Policy Branch

Date & Time Filed: Nov 4 2015 11:49:15:473AM
File Number: SAT-STA-20151104-00075
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:
T12V IOT STA (Nov 2015)


1. Applicant

Name:	Skynet Satellite Corporation	Phone Number:	613-748-8700
DBA Name:		Fax Number:	613-748-8712
Street:	135 Route 202/206	E-Mail:	JForsey@telesat.com
City:	Bedminster	State:	NJ
Country:	USA	Zipcode:	07921 -
Attention:	John Forsey		

Skynet Satellite Corporation
IBFS File No. SAT-STA-20151104-00075
Call Sign S2933

The application of Skynet Satellite Corporation (Skynet), for special temporary authority, IBFS File No. SAT-STA-20151104-00075, IS GRANTED. Accordingly, Skynet is authorized for a period of 30 days commencing December 1, 2015, to conduct in-orbit testing (IOT) of the Telstar 12V space station (Call Sign S2933) between the 15.7° W.L. and 16° W.L. orbital locations using the following frequency bands: 10.95-12.2 GHz, 12.5-12.75 GHz, 18.3-19.1 GHz, and 19.7-20.2 GHz (space-to-Earth); and 13.0-13.25 GHz, 13.75-14.5 GHz, 28.35-28.9 GHz, and 29.25-30.0 GHz (Earth-to-space). Skynet is also authorized to conduct telemetry, tracking, and command operations necessary to conduct in-orbit testing and to drift Telstar 12V to the 15° W.L. orbital location using the following center frequencies: 14497.6 MHz, 14499.6 MHz, 11700 MHz, and 11701 MHz. Operations under this authorization are subject to the terms, conditions, and technical specifications set forth in Skynet's application and the Federal Communication Commission's rules, and are subject to the following conditions.

1. All operations under this grant of special temporary authority must be on an unprotected and non-harmful interference basis. Skynet must not cause harmful to, and shall not claim protection from interference caused to it by, any other lawfully operating radio communication system. In the event of any harmful interference as a result of operations under this grant of special temporary authority, Skynet must cease operations immediately upon notification of such interference and must immediately inform the Commission, in writing, of such an event.
2. Skynet's operations of Telstar 12V between the 15.7° W.L. and 16° W.L. orbital locations must be limited to IOT and must not include the provision of commercial service.
3. Skynet must coordinate operations of Telstar 12V with existing geostationary space stations to ensure that no unacceptable interference results from its IOT operations or during the drift to the 15° W.L. orbital location.
4. This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R.0.261, and is effective upon release.

 GRANTED* International Bureau *with conditions	File # <u>SAT-STA-20151104-00075</u>
	Call Sign <u>S2933</u> Grant Date <u>11/19/15</u> (or other identifier)
	Term Dates <u>period of</u> From <u>12/01/15</u> To: <u>30 days</u>
	Approved: <u>Stephen J. Duall</u> Stephen J. Duall Chief, Satellite Policy Branch

2. Contact	
Name: Joseph A. Godles	Phone Number: 202-429-4900
Company: Goldberg Godles Wiener & Wright LLP	Fax Number: 202-429-4912
Street: 1229 19th Street, NW	E-Mail: jgodles@g2w2.com
City: Washington	State: DC
Country: USA	Zipcode: 20036 -2413
Attention:	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 SATLOA2014101000107 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 CRY – Space Station (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 15.7 WL to 16.0 WL	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.)

Skynet Satellite Corporation (Skynet) hereby requests Special Temporary Authority (STA) for a period of 30 days beginning Dec. 1, 2015 to conduct in-orbit testing (IOT) of the Telstar 12V satellite.

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. Yes No

10. Name of Person Signing
Chris DiFrancesco

11. Title of Person Signing
Secretary

12. Please supply any need attachments.

Attachment 1: Request for STA

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).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

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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.

**Request for Special Temporary Authority to Conduct In-orbit Testing of the
Telstar 12V Satellite (Call Sign S2933)**

Skynet Satellite Corporation (Skynet) hereby requests Special Temporary Authority (STA) for a period of 30 days beginning Dec. 1, 2015¹ to conduct in-orbit testing (IOT) of the Telstar 12V satellite. The IOT will be conducted on an unprotected, non-interfering basis.

The Commission has authorized² Skynet to operate the Telstar 12V satellite at 15°W. Following launch, Skynet proposes to place T12V in the geostationary arc at 16°W and to drift slowly eastward to 15°W. The testing will be conducted in the arc between 16°W and 15.7°W. Flexibility over this orbital range facilitates physical and frequency coordination with nearby satellites. Skynet cannot conduct T12V IOT at the licensed orbital location of 15°W because of the risk of interference with services that are carried on Telstar 12 (T12). These services will be transferred to T12V only following successful completion of IOT and collocation of T12 and T12V at 15°W.

Service transition between T12 and T12V will need to be carefully orchestrated. The two satellites have very different frequency plans and coverage, and so a number of customers will need to change frequencies and/or polarization, which requires that some services be carried simultaneously on both satellites for a period of time while the necessary adjustments are made to the customers' ground segment equipment. Telesat Canada ("Telesat"), an affiliate of Skynet, controls both satellites and will maintain them during the transition in the same orbital box of 15° W ± .05° while executing maneuvers to ensure adequate physical separation at all times.

Skynet anticipates that the T12/T12V traffic transfer will be completed by the end of Q1 2016. At that time, T12 will either be relocated or de-orbited, subject to any required FCC approvals.

The following satellites (in addition to Telstar 12, for which Skynet is the licensee) are physically located in the geostationary arc between 16°W and 15°W, inclusive:

Luch 5B at 16°W

Inmarsat 3F2 at 15.5°W

ABS3 (to be located at 15.75°W prior to the T12V IOT)

In order to minimize risk of physical collision with other satellites during the T12V drift, Skynet is coordinating directly with the operators of the above-listed satellites, namely Russian Space Systems (RSS), Inmarsat, and ABS. Coordination has already been successfully completed with ABS.

In order to protect against collisions with other orbiting objects, including debris, Telesat has a contract with MIT/Lincoln Labs to provide notification and high-precision orbits for drifter objects when close

¹ The current planned launch date for Telstar 12V is Nov. 24, 2015.

² File No. SAT-LOA-20141010-00107.

approaches with our satellites are projected. Processing of the notifications is fully automated to ensure efficient response should avoidance maneuver(s) be required to eliminate any threat of collision with the drifter object. Telesat will also provide ephemerides to the Space Data Center and the Joint Space Operations Center (JSpOC). The JSpOC also provides notifications to Skynet for any object they see approaching a Skynet satellite.

During IOT, test signals will be transmitted in the unplanned Ku-band, the Appendix 30B Ku-band, and the Ka-band. The following satellites are currently operational in one or both of these bands in the portion of the orbital arc between 22°W and 9°W (i.e. 6 degrees west of 16°W and 6 degrees east of 15°W):

Operator	Satellite Name	Orbital Location (°W)	Status
NSS	NSS 14	22.0	Coordination underway, no foreseen concerns
	NSS 7	20.0	
Intelsat	Panamsat 7	18.2	Coordination underway, no foreseen concerns
	Intelsat 901	18.0	
RSS	Luch 5B	16.0	Coordination underway, no foreseen concerns
Intersputnik – ABS	ABS 3	15.7	Coordination successfully completed
RSCC	Express A1R	14.0	Coordination underway, no foreseen concerns
	Express AM8	14.0	
	Express AM44	11.0	
Eutelsat	Atlantic Bird 1	12.5	Initiated Coordination, awaiting response
	Atlantic Bird 1	12.5	
US government	TDRS 9	12.1	Initiated coordination with NASA and NTIA

In order to minimize risk of electromagnetic interference with these satellites, Telesat is coordinating with the relevant operators, with coordination status as noted in the table above.

During the IOT, test signals will be transmitted to T12V and received from T12V at the following locations: Allan Park, Canada; Aflenz, Austria; Johannesburg, South Africa; and Benevidez, Argentina. Since no US-licensed earth station will be transmitting or receiving test signals, Skynet is not requesting an IOT-related STA for any earth station.

Three IOT tests will be performed: Satellite PA Transfer Characteristics, Antenna Mapping and Frequency [\[Translation\]](#).

Satellite PA Transfer Characteristics

This test will be done in all unplanned Ku-Band, Ap30B Ku-band and Ka-Band transponders. Checks will be done on the spare satellite PAs as well.

A wideband digital carrier will be uplinked starting at a low level and increased to saturation. The maximum uplink EIRP densities are 5.6 dBW/Hz at Ku-band (both unplanned and Ap30B) and 7.8 dBW/Hz at Ka-band. The maximum downlink EIRP densities are -17dBW/Hz at unplanned Ku-band, -21 dBW/Hz at Ap30B Ku-band, and -14 dBW/Hz at Ka-band.

Antenna Mapping

This test will be done in one transponder of each polarization for each beam. The antenna patterns will be mapped by slewing the satellite east-west and north-south. The maximum uplink EIRP densities are 5.6 dBW/Hz at Ku-band (both unplanned and Ap30B) and 7.8 dBW/Hz at Ka-band. The maximum downlink EIRP densities are -17dBW/Hz at unplanned Ku-band, -21 dBW/Hz at Ap30B Ku-band, and -14 dBW/Hz at Ka-band.

Frequency Translation Test

A CW carrier will be uplinked from various sites at selected frequencies in the unplanned Ku-band, the Ap30B Ku-band, and the Ka-band. The maximum uplink EIRP is 46 dBW at Ku-band (both unplanned and Ap30B) and 43 dBW at Ka-band. The maximum downlink EIRP is 32 dBW at unplanned Ku-band, 25 dBW at Ap30B Ku-band and 32 dBW at Ka-band.

Tests will be conducted on an unprotected, non-interference basis and will be halted or modified in the event that actual harmful interference is reported. The 24/7 point of contact during the IOT is the Telesat Technical Control Centre, 1-519-371-6107.

Accordingly, and for good cause shown, Skynet's STA request should be granted.

LAW OFFICES
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November 9, 2015

FILED ELECTRONICALLY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th St., S.W.
Washington, DC 20554

Re: Supplement to Request for Special Temporary Authority
FCC File No. SAT-STA-20151104-00075

Dear Ms. Dortch:

Skynet Satellite Corporation ("Skynet") hereby supplements the above-referenced request for special temporary authority to clarify the frequencies it will use for in-orbit testing ("IOT") of its Telstar 12 Vantage satellite ("Telstar 12V"). The IOT frequencies for Telstar 12V will fall within the frequency bands that Skynet identified in its application for authority to launch and operate T12V,¹ as follows:

Ku-band (unplanned): 10.95-11.2 GHz, 11.45-12.2 GHz, 12.5-12.75 GHz, and 13.75-14.5 GHz.

Ku-band (Appendix 30B): 11.2-11.45 GHz and 13.0-13.25 GHz.

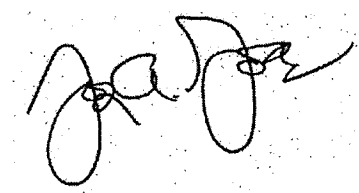
¹ See FCC File No. SAT-LOA-20141010-00107.

Ka-band: 18.3-19.1 GHz, 19.7-20.2 GHz, 28.35-28.9 GHz, and 29.25-30.0 GHz.

TT&C (center frequencies): 14497.6 MHz, 14499.6 MHz, 11700 MHz, and 11701 MHz.

Please direct any questions concerning this filing to the undersigned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "J. Godles", with a stylized flourish at the end. The signature is centered on the page.

Joseph A. Godles
Counsel for Skynet Satellite Corporation

cc: Alyssa Roberts, International Bureau