



SPACE AI Inc.

To: Antonio Montesinos

E-Mail: rfops@spaceai.com

From: Doug Young

Date: October 03, 2019

Subject: Request for Info - File # 0225-EX-CM-2019

Reference: 51109

Q&E

1. "The applicant proposes to use 450.1-450.15 MHz for space research (Earth-to-space) and (space -to-Earth). The use of the 450.1-450.15 MHz band is not allocated for space research in the (space -to-Earth) direction. Therefore, an FCC and ITU SNL database search is necessary to determine if any frequency overlap or adjacent band interference may be caused in the downlink. Additionally, the use of this band is subject to coordination agreement under RR 9.21, therefore the CR tab should be completed rather than the API tab in the spacecap file."

We kindly remind that this is a modification application process for an already grated FCC license. The main change was that instead to have our experiment attached to the outside bay of the ISS flying at 400Km, we change to a free-fly mission at 550Km. We keep all the parameters as was granted by the FCC, including the frequency allocation.



A review on the ITU SNL database search, confirm that the SAI-1 mission already is under ITU consideration (Fig 1 and 2). So could you please advice the best way to proceed under this consideration?

operating in frequency range from 450.1 MHz to 450.15 MHz
transmitting/receiving beams

Please click on the satellite name to see a list of all publications relating to the satellite

ADM/ORG	SATELLITE NAME	NOTIF.REASON	BR IFIC	FREQUENCIES
CHN	KS-2	C	2882	view
J	MSTD	C	2895	view
LUX	MINAS	C	2888	view
NOR	ARE-2	C	2768	view
NOR	ARE-3	C	2822	view
NOR	ARE-3	U	2848	view
NOR	ARE-2	N	2890	view
NOR	ARE-3	N	2893	view
PNG	MICRONSAT	A	2899	view
S	KIRUNA ROCKET	N	2577	view
SLM	SI-SAT-KURUKURU	C	2886	view
USA	USASAT-30F	A	2788	view
USA	LEMUR-2-3	C	2873	view
USA	FALCONSAT	N	2876	view
USA	USASAT-30F	N	2884	view
USA	USMIG	C	2888	view
USA	LUNAR ICECUBE	C	2890	view
USA	SAI-1	A	2901	view

TOTAL: 18

Fig.1 SAI-1 (Bottom of the list) in the ITU SNL database

Radiocommunication

Space Network List Online

frequency range including 450.1 MHz to 450.15 MHz

BEAM NAME	EMISS/REC	FREQ.(MHz)	BDWIDTH(kHz)	FR.MIN(MHz)	FR.MAX(MHz)	CLASS
SAIS	E	450.125	50	450.1	450.15	EH

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Revised: 05 October 2019



International Telecommunication Union, 1996-2008

Fig.1 SAI-1 Frequency allocation already declared on the ITU SNL database

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
RADIO STATION CONSTRUCTION PERMIT
AND LICENSE**

EXPERIMENTAL
(Nature of Service)

WJ2XWV
(Call Sign)

XR FX MO
(Class of Station)

0615-EX-CN-2018
(File Number)

NAME Space AI Incorporated

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(d) of the Commission's Rules

Station Locations

- (1) MOBILE: LEO 400 km, Aboard ISS
- (2) La Honda (SAN MATEO), CA - NL 37-19-13; WL 122-16-37

Frequency Information

MOBILE: LEO 400 km, Aboard ISS

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
450.1-450.15 MHz	MO	50K0F1D	5.9 W (ERP)	0.0001 %

La Honda (SAN MATEO), CA - NL 37-19-13; WL 122-16-37

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
450.1-450.15 MHz	FX	50K0F1D	10.8 W (ERP)	0.0001 %

This authorization effective November 30, 2018 and will expire 3:00 A.M. EST December 01, 2020

**FEDERAL
COMMUNICATIONS
COMMISSION**



Special Conditions:

- (1) Upon receipt of a conjunction warning from the JSpOC or other source, the licensee must review the warning and take all possible steps to assess and, if necessary, to mitigate collision risk, including, but not limited to: contacting the operator of any active spacecraft involved in such warning; sharing ephemeris data and other appropriate operational information with any such operator; modifying spacecraft attitude and/or operations.
- (2) The licensee shall provide the Commission with all information required for the Advance Publication, Coordination and Notification of frequency assignments pursuant to the International Radio Regulations. This includes the preparation of draft materials, to be provided to the Commission prior to submission to the International Telecommunication Union. The authorized operations require notification of frequency assignments pursuant to Article 11 of the ITU Radio Regulations. Licensee shall provide the FCC, not later than 30 days after a frequency assignment is brought into use, the documents required for notification (including SpaceCap Notification MDB file) of such frequency assignments. The licensee shall also prepare materials for informing the ITU that a frequency assignment has been brought into use, or that its use has been suspended or permanently discontinued.
- (3) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at https://www.sbe.org/sections/freq_local.php to find the appropriate coordinator.
- (4) Following launch of the satellite, the licensee must notify the FCC through electronic submission to the license file, of the status of the satellite (transmissions commenced, etc.), not later than 7 days after commencement or expected commencement of transmissions, and of termination of transmissions, not later than three months after such termination.