

Laverentz, Jennifer

Subject: FW: Consent needed for STA application

-----Original Message-----

From: Kristin Kellett [mailto:Kristin.Kellett@digitalglobe.com]
Sent: Wednesday, August 30, 2017 2:26 PM
To: Laverentz, Jennifer <jenlav@ku.edu>
Cc: Kristin Kellett <Kristin.Kellett@digitalglobe.com>; Daniel Jablonsky <Dan.Jablonsky@digitalglobe.com>
Subject: RE: Consent needed for STA application

Dear Jennifer,

Thank you for your letter and opportunity to review the proposed frequency bands for potential interference. The frequency bands outlined are nowhere near DG frequency bands and KU's test area is not within sight of any of our ground stations. Therefore, DigitalGlobe has determined that KU's performance of test measurements of an aircraft-mounted radar system during 2-3 flights between September 15-30, 2017 and October 19-28, 2017 around Oshkosh, Wisconsin will not impact DigitalGlobe's operations.

As a result, DigitalGlobe provides its consent for the frequency bands 150-150.05 MHz, 399.9-403 MHz, and 449.75-450.25 MHz. If this email is not sufficient, please let me know and I will issue a formal letter to you.

Sincerely,
Kristin

Kristin Kellett
Sr. Director of Compliance
Sr. Corporate Counsel & Empowered Official
+1.303.684.1771 (office)
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kristin.kellett@digitalglobe.com

Laverentz, Jennifer

From: Walter Sonnenfeldt <Sonnenfeldt.Walter@orbcomm.com>
Sent: Friday, September 15, 2017 9:54 AM
To: Leuschen, Carl; Laverentz, Jennifer; Anthony Serafini (anthony.serafini@fcc.gov)
Cc: Behnam.Ghaffari@fcc.gov
Subject: ORBCOMM Response - FCC Part 5 STA Application File No. 1145

Re: Center for Remote Sensing of Ice Sheets - FCC Part 5 STA Application File No. 1145-EX-ST-2017

Ms. Laverentz & Prof. Leuschen:

Please send a reply E-Mail to sonnenfeldt.walter@orbcomm.com to confirm that you have received this message.

Thank you for your coordination request regarding the above-referenced University of Kansas Center for Remote Sensing of Ice Sheets ("CRSIS") application for FCC Part 5 Special Temporary Authority ("Application").

Based on the information provided in the Application and our correspondence exchanges, **CRSIS has confirmed to ORBCOMM that it will amend the STA request to change the lower channel edge of the proposed radar experimentation from 150 MHz to 160 MHz** (i.e., raise the lower channel edge by 10 MHz). This revised channelization for the proposed experimental operation is to ensure no harmful interference to ORBCOM's authorized commercial operations. Subject to the above-described amendment to the Application, ORBCOMM has no objection to grant of the Application for use of spectrum for the proposed program of experimentation on a temporary non-protected non-interference basis in accordance with FCC Rule Part 5.

However, ORBCOMM's consent to temporary non-interference FCC Part 5 experimental use of spectrum must in no way be construed as ORBCOMM's consent to the use of spectrum by CRSIS or any other party under any other authorization regime (including international coordination of spectrum for use by CRSIS, or authorization for use of spectrum by CRSIS in any country other than the United States).

ORBCOMM has no other comments or objections to the Application at this time.

Best Regards,

Walter Sonnenfeldt
Vice President, Regulatory Affairs
ORBCOMM Inc.
E-Mail: sonnenfeldt.walter@orbcomm.com

Laverentz, Jennifer

From: Craig Scheffler <craig@planet.com>
Sent: Thursday, September 7, 2017 2:38 PM
To: Laverentz, Jennifer
Cc: Craig Scheffler; Avanti Mankar; Mike Safyan; Rich Leshner
Subject: Re: Consent needed for STA application

Hello Jennifer,

We apologize for the delay in responding, and I have recently taken on the spectrum management roles from Mike Safyan.

Based on the information you provided in your email below and the location near Oshkosh WI or Lake Winnipeg, Canada, we do not anticipate any issues with our ground station operations and satellites for these short duration tests. Therefore we provide consent for your experimental operations as described. Specifically for transmissions in the 399.9-403 MHz and 449.75 - 450.25 MHz bands and our operations do not include and are not affected by transmissions in the 150-150.05 MHz band.

Best Regards,

Craig Scheffler | Planet
Spectrum Manager
Tel: +1 (720) 238-5634
craig@planet.com

From: Laverentz, Jennifer

Sent: Monday, August 28, 2017 3:56 PM
To: 'mike@planet.com' <mike@planet.com>
Subject: Consent needed for STA application

Mr. Safyan,

The Center for Remote Sensing of Ice Sheets at The University of Kansas is in the process of applying for a special temporary authority (STA) with the Federal Communication Commission (FCC). As part of this process, we have been asked to obtain permission from your company. The FCC is requiring a consent letter/email for the frequency bands 150-150.05 MHz, 399.9-403 MHz, and 449.75-450.25 MHz before they will proceed with our application.

The purpose of our application is to preform test measurements of an aircraft-mounted radar system during 2-3 flights between September 15-30, 2017 and October 19-28, 2017 around Oshkosh, Wisconsin. We need to perform 2 -3-test flights with a duration of 1-2 hours to allow for the calibration and testing of the radar. The height of the transmitter will be at a nominal flight altitude of 1500 feet AGL. The locations of operation are outlined in Image 1 and Image 2.

The area of operation in the Oshkosh area will depend on the weather. Ideally, the test flights will take place over Lake Michigan. In case of strong winds, we will use Lake Winnebago

Image 1. Test area over Lake Michigan

<image005.png>

Test Area 1 Lake Michigan; 42NM legs

Point 1: 4450N08700W

Point 2: 4450N08630W

Point 3: 4410N08650W

Point 4: 4410N08720W

Image 2 – Test Area over Lake Winnebago

<image006.png>

Test Area 2 Lake Winnebago; 20 NM leg

Point 1: 4340N08825W

Point 2: 4410N08820W

Technical Specifications

1. Frequency of Operation

CReSIS requests authorization to operate in 150-450 MHz bands.

2. Effective Radiated Power (ERP)

The effective radiated power (ERP) will not exceed 63 W peak, 54 average

3. Modulation Signal Description and Emissions

For 150-450 MHz, the signal is a UHF/VHF radar signal with a pulse width of 1 μ s/ 10 μ s to 20 μ s Max, duty cycle of 10%, and a pulse repetition frequency of 10kHz.

4. Antenna Information

The antenna used is an co-linear array. The antenna exhibits up to 10-15 dBi of gain with a beamwidth up to 20° in along-track and 50° in cross-track. The antenna broadside is pointed at nadir, toward the surface of the earth.

Please feel free to contact me via email or at the number below with any questions.

Best Regards,

Jennifer

Jennifer Laverentz

Administrative Manager

Center for Remote Sensing of Ice Sheets

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