To: Nicolas Lee
E-Mail: nnlee@stanford.edu
From: Doug Young
Date: November 21, 2016

Subject: Request for Info - File # 0238-EX-PL-2016

Message:

The FCC's International Bureau would like you to address the following issues:

We have reviewed the new information provided by the applicant of the subject request and found some questions that may have been missed because they were not addressed so we have included them again for consideration:

FCC query: Applicant will the spacecraft transmit ONLY when visible from notified services area? If yes, please marked Box B2bisa.a with an "X."
Applicant: "Our spacecraft operates with a beacon that transmits regularly so I did not check box B2bis.a, but our ground station antenna has an elevation mask of 5 degrees. I wasn't able to insert this value in B2bis.b."
Beacon that transmits regularly around the world is very concerning news. In order to share spectrum without interference satellite typically transmit only when in view of their earth station. Can the applicant provide more detail information about the transmit beacon. Can the beacon be controlled to only transmit over its service area? Can the beacon be turned off on command?
On a separate topic, will the earth station transmit and/or receive signals from OTHER satellites? If yes, what frequencies will they be transmitting and/or receiving in?
Form 442 and SpaceCap API documents

We did not see an update to Form 442 nor did we get an explanation for the request below so we added it again.

On FCC form 442 for the uplink, we calculated the ERP value (max power of 17 dBW + antenna gain of 14.5 dBi = 31.5 dBW EIRP; then converted the 31.5 dBW EIRP value to ERP 31.5-2.15 = 29.35 dBW and converted to Watts which came to be about 861 Watts. The current ERP value in form 442 is shown as 1426 Watts. Please check the calculation above and if agree, update the form 442 file as appropriate. If not, please explain why.
In the SpaceCap, Group id 1, UPLINK:

The Power Density (or Power Spectral Density) boxes C8a2/C8b2 (Max pwr dens) and box C8c3 (Min Pwr dens.) values don't match with our calculations; we calculated the power spectral density value using the following equation:
Power Spectral Density = Power (dBW) - 10 * Log10 (Emission Bandwidth in Hertz).
Applicant please check the max and min power spectral density value and update the SpaceCap file as appropriate.
In the SpaceCap, Group id 2, DOWNLINK:

The Power Density (or Power Spectral Density) boxes C8a2/C8b2 (Max pwr dens) and box C8c3 (Min Pwr dens.) values don't match with our calculations; we calculated the power spectral density value using the following equation: Power Spectral Density = Power (in dBW) - 10 * Log10 (Emission Bandwidth in Hertz). Applicant please check the max and min power spectral density value and update the SpaceCap file as appropriate.

Lastly, we received the spacecraft antenna pattern but we don't have an antenna pattern for the earth station. Please provide the radiate antenna pattern for the earth station.

The items indicated above must be submitted before processing can continue on the above referenced application. Failure to provide the requested information within 30 days of November 21, 2016 may result in application dismissal pursuant to Section 5.67 and forfeiture of the filing fee pursuant to Section 1.1108.

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Responses to this correspondence must contain the Reference number : 34781