

Douglas Young

From: Mike Miller <mlmiller@sterksolutions.com>
Sent: Tuesday, November 7, 2017 11:34 AM
To: Douglas Young
Subject: DaVinci Request for Info - File # 0216-EX-CN-2017
Attachments: DaVinciSpaceCapR2.txt; PATGSXMT.pdf; PATGSRRC.pdf

Doug,

Thank you for sending along this feedback from IB. The attached, modified Spacecap file has the extension renamed from .mdb to .txt so that it can go through the email system. Also, the radiation pattern diagrams for Globalstar are attached. And as the following notes show, Form 442 was updated as requested.

Our Mission Readiness Review for Elana 19 is coming up in about a month. I hope we can wrap this up, and the others on that flight, by then, to avoid angst from the various interested parties.

Thanks for your continued efforts.

Mike
415 385-3842

Here is the response to each of the points covered.

1. The applicant has selected center frequency 147.5 MHz (uplink) and 430.425 MHz (downlink) for this mission. Reviewing the US and ITU frequency table of allocations, these two bands are not allocated for space service. Applicant please choose satellite service allocations for this request. The International Telecommunication Union (ITU) would have concern that the USA is allowing small satellite operations in no-satellite terrestrial bands.

The FCC does not support operations in these terrestrial 147.5 MHz and 430.425 MHz bands.

A: As discussed, we have changed the application to 432.5 MHz downlink, and 144.5 MHz uplink.

2. Form 442: For 1610 MHz band (which is for use of the Globalstar duplex modem), applicant please adjust the frequency to 1615-1617.5 MHz; the emission designator should be 1M23G7W and the ERP should be 24 mW assuming an antenna gain of 0 dBi.

A: These adjustments have been made on Form 442.

SpaceCap API file:

3. In the API, the number of space stations simultaneously transmit on Northern Hemisphere it has the value of ten (10) units; how many CubeSat's are planned to be deployed in this mission?

A: The correct number is one (1). This has been corrected in the attached SpaceCap API.

4. On the orbital parameters, please ensure that the altitude and the perigee values are the same.

A: The altitude and perigee values are now the same in the attached SpaceCap API.

5. FCC does not support the VHFUP uplink beam frequency band; however, if applicant finds an alternative frequency please ensure to have an associated Earth Station instead of associated Space Station.

Also, note that the max peak power of 27 dBW does NOT match with Form 442 output power of 17 dBW; also, the power spectral density value changes depending on the output power so those values will need to be recalculated.

A: As discussed, the VHFUP uplink frequency has been changed to 144.5 MHz. The SpaceCap and form 442 now both reflect this. Form 442 has been corrected to ERP of 25 dBW or 323 Watts, which corresponds to an EIRP of 27 dBW..

6. FCC does not support the UHFDOWN beam frequency band; however, if applicant finds an alternative frequency please note that the max peak power of 3.9 dBW does NOT match with Form 442 output power of 3 dBW; also, the power spectral density value changes depending on the output power so those values will need to be recalculated.

A: As discussed the downlink UHFDOWN frequency has been changed to 432.5 MHz in both Form 442, and the SpaceCap. The max peak power has been changed so that the Form 442 and the Spacecap are consistent, and the power spectral density in the SpaceCap has been recalculated.

7. The box RR No. 4.4 was not checked Y; applicant, please check this box with a "Y"

A: This as been done in the attached SpaceCap API

8. Also, the service area should indicate that the downlink will operate in USA.

A: This has been done in the attached SpaceCap API.

9. For the GLOBALT beam, follow the attached guidance on how to file this information in the API.

A: Per the guidance, the GLOBALT beam has been renamed to GSXMT in the attached SpaceCap API. The data has been updated to conform with the guidance.

Please let me know anything else required.

Thanks,

Mike
415 385-3842

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

Subject: Request for Info - File # 0216-EX-CN-2017

Date: Mon, 30 Oct 2017 12:57:13 -0400

From:

To:

Office of Engineering and Technology

To: Michael Miller, LCF Enterprises

mlmiller@sterksolutions.com

From: Doug Young

Douglas.Young@fcc.gov

Applicant: LCF Enterprises
File Number: 0216-EX-CN-2017
Correspondence Reference Number: 39473
Date of Original Email: 10/30/2017

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

VHF (uplink) and UHF (downlink) bands concerns:

The applicant has selected center frequency 147.5 MHz (uplink) and 430.425 MHz (downlink) for this mission. Reviewing the US and ITU frequency table of allocations, these two bands are not allocated for space service. Applicant please choose satellite service allocations for this request. The International Telecommunication Union (ITU) would have concern that the USA is allowing small satellite operations in no-satellite terrestrial bands.

The FCC does not support operations in these terrestrial 147.5 MHz and 430.425 MHz bands.

Form 442:

For 1610 MHz band (which is for use of the Globalstar duplex modem), applicant please adjust the frequency to 1615-1617.5 MHz; the emission designator should be 1M23G7W and the ERP should be 24 mW assuming an antenna gain of 0 dBi.

SpaceCap API file:

In the API, the number of space stations simultaneously transmit on Northern Hemisphere it has the value of ten (10) units; how many CubeSat's are planned to be deployed in this mission?

On the orbital parameters, please ensure that the altitude and the perigee values are the same.

FCC does not support the VHFUP uplink beam frequency band; however, if applicant finds an alternative frequency please ensure to have an associated Earth Station instead of associated Space Station.

Also, note that the max peak power of 27 dBW does NOT match with Form 442 output power of 17 dBW; also, the power spectral density value changes depending on the output power so those values will need to be recalculated.

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The box RR No. 4.4 was not checked Y; applicant, please check this box with a "Y"

Also, the service area should indicate that the downlink will operate in USA.

For the GLOBALT beam, follow the attached guidance on how to file this information in the API.