

From: Umer Qureshi

To: Leann Nguyen
Date: May 11, 2018

Subject: Request for Info - File # 0834-EX-ST-2018

Message:

Please find the requested information below.

City/State: Mojave, California
Latitude : North 35 3 24
Longitude: West 118 9 28
Radius of Operation (Captive Carry Phase): 400km
Flight Altitude (Captive Carry Phase): 40,000 ft

Please refer to DoD WAFC Coordination below.

"

Umer Qureshi

From: Foltz, Andrew P CIV NAVAIR, 52140MD

Sent: Wednesday, April 25, 2018 2:15 PM

To: Umer Qureshi

Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson

Subject: RE: Virgin Orbit S-Band Test

No real issues with your request, will the spacecraft have issues if tracked by DOD radars? Rockets that pierce the skies

catch their eyes and they like to watch its progress.

Regards,

Andrew Foltz

DOD Western Area

Frequency Coordinator

China Lake, CA

760-939-6948

DSN: 437-xxxx

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

From: Umer Qureshi [mailto:Umer.Qureshi@virginorbit.com]

Sent: Wednesday, April 25, 2018 2:13 PM

To: Foltz, Andrew P CIV NAVAIR, 52140MD

Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson

Subject: [Non-DoD Source] RE: Virgin Orbit S-Band Test

Thanks Andrew,

Could you please review the information and let me know if you have any questions or concerns with any aspect of the

mission(frequency requested, bandwidth, power, Transmitter ON duration, flight path, trajectory etc.)

We can also provide more detailed information if you have questions on any particular area of the mission.

Best Regards

Umer Qureshi

RF Systems Engineer

Phone# 562-706-5295

Virgin Orbit

4022 E Conant St,

Long Beach, CA 90808

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

From: Foltz, Andrew P CIV NAVAIR, 52140MD [mailto:andrew.foltz@navy.mil]
Sent: Wednesday, April 25, 2018 2:00 PM
To: Umer Qureshi
Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson
Subject: RE: Virgin Orbit S-Band Test

Umer,

Thank you for the file, we will keep your proprietary information close at hand and not shared with any outside sources.

Regards,

Andrew Foltz
DOD Western Area
Frequency Coordinator
China Lake, CA
760-939-6948
DSN: 437-xxxx

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

From: Umer Qureshi [mailto:Umer.Qureshi@virginorbit.com]
Sent: Wednesday, April 25, 2018 12:53 PM
To: Foltz, Andrew P CIV NAVAIR, 52140MD
Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson
Subject: [Non-DoD Source] RE: Virgin Orbit S-Band Test

Andrew,

Please find the document attached. This document is proprietary and confidential to Virgin Orbit and ITAR controlled.

Here is a quick summary. More details in the attached document. Please let me know if you need more details.

- We are requesting STA license to turn on S-Band telemetry transmitter on the Launcher One rocket.
- Launch is expected in August 2018.
- We are requesting 2262MHz.
- We are launching in Western Sea Range restricted airspace at Point Mugu.
- Transmitter will be turned on for RF checkouts on the ground and then it will be turned off.
- Transmitter will be turned on again 15 mins before drop and stay on until 2nd stage battery is depleted.

Regards

Umer Qureshi
RF Systems Engineer
Phone# 562-706-5295

Virgin Orbit
4022 E Conant St,
Long Beach, CA 90808

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

From: Foltz, Andrew P CIV NAVAIR, 52140MD [mailto:andrew.foltz@navy.mil]

Sent: Wednesday, April 25, 2018 8:45 AM

To: Umer Qureshi

Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson

Subject: RE: Virgin Orbit S-Band Test

Umer,

Your program information stays with us and is not shared with anyone outside this office.

Regards,

Andrew Foltz

DOD Western Area

Frequency Coordinator

China Lake, CA

760-939-6948

DSN: 437-xxxx

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

From: Umer Qureshi [mailto:Umer.Qureshi@virginorbit.com]

Sent: Tuesday, April 24, 2018 6:09 PM

To: Foltz, Andrew P CIV NAVAIR, 52140MD

Cc: Heaton, Jamie CIV NAVAIR, 52370MD; Garrett Olson

Subject: [Non-DoD Source] RE: Virgin Orbit S-Band Test

Hi Andrew,

We are getting ready to submit an FCC STA application for first space launch. The launch is expected in August 2018.

I would like to send you a document that has preliminary details of the mission. Could you please confirm that you are

able to receive ITAR Controlled information, so I can share the document with you.

Best Regards

"

Umer Qureshi
RF Systems Engineer