



Federal Communications Commission  
Office of Engineering and Technology  
Experimental Licensing Branch  
445 12<sup>th</sup> St., S.W.  
Room 7-A322  
Washington, DC 20554

2020.03.06

Dear Sir or Madam:

This application is for FCC authorization for Voxa to operate the Mochii's WiFi and Bluetooth radios aboard the ISS. The ISS orbits the earth at velocity of 7.66 km/s, altitude 254 mi, and 51.6° inclination.

Mochii is a portable tool that enables nanoscale imaging and analysis in the field, and will be used on orbit to perform novel science in space and support crew and vehicle safety by identifying invisible mission threats. It features an innovative model for collaborative science, allowing multiple scientists, stakeholders, and technicians to simultaneously view and contribute to the live analysis. Being a portable, collaborative tool, it is configured for wireless communications to enable rapid data acquisition in the field.

Mochii, Inc. (DBA Voxa) has been working with NASA over the past few years to certify Mochii for operation aboard the International Space Station (ISS). The certified Mochii was flown up on the Northrop Grumman 13 resupply mission on February 15th, 2020. The Mochii is owned and operated by Voxa, but will provide NASA as well as third parties the capability to analyze samples without having to send them back down to earth.

Mochii contains 2 antennae, both capable of both WiFi and Bluetooth communications. The primary antenna is used for 2.4 GHz and 5 GHz WiFi and also standard Bluetooth and Bluetooth Low Energy (BLE). The secondary antenna uses standard Bluetooth only, but is capable of 2.4 GHz WiFi as well.

The primary antenna is part of the main on-board computer. Its purposes are:

- Connection to 2.4 GHz and 5 GHz WiFi networks.
- Allow users to configure Mochii network settings via BLE.
- Communicate with the secondary on-board computer via standard Bluetooth.

The secondary antenna is part of a secondary on-board computer, and its sole purpose is communicating with the main on-board computer via standard Bluetooth across a high voltage gap.

Included as exhibits in this application are photos of Mochii on Earth and its location on the ISS, and NASA's EMI (electromagnetic interference) test results for Mochii.

Sincerely,

Theodore DeRego  
Software Engineer, Voxa