

## FCC Experimental Authority Request

February 2021

Rob Reis  
Higher Ground LLC  
Palo Alto, CA 94303

Higher Ground is developing a very small Ku band transceiver [SatPaq 2k] that will communicate to GEO satellites. We would like to do testing from the locations shown below to Intelsat's G3c satellite [97 W).

### Test Location #1

NASA Research Park, Mountain View, CA ; 37°, 24, 54.82; -122°, 03, 45; with a radius of 30 miles. The azimuth from Mountain View, CA to the Intelsat satellite at 97 W is 142.4 degrees, and the elevation is 39.3 degrees.

### Test Location #2

Centreville, VA; 38° 50 25; -77°, 25, 44; with a radius of 50 miles. The azimuth from Centreville, VA to the Intelsat satellite at 97 W is 209.5 degrees, and the elevation is 40.6 degrees.

### Technical Specifications

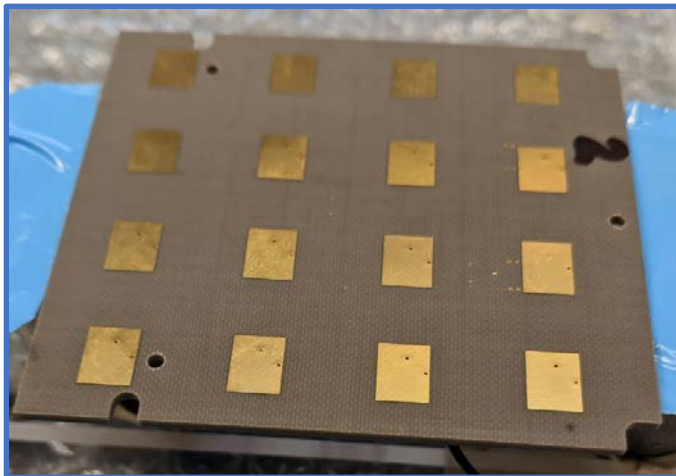
RF Power [max.]	33 dBm max
Frequency	14.000 to 14.500 GHz
Bandwidth	4 MHz
Spread	30 to 33 dB of spreading

Antennas [two types]

[1] 23 dBi Medium horn For Initial testing



- [2] 4x4 patch array      'Our spread antenna'
- 18 dBi gain
  - 3 dB frequency bandwidth is 1000 MHz
  - 3 dB spatial half angle is 8 degrees
  - Vertical polarization
  - About 5 square inches



#### Conformance to the Antenna Mask

Due to the extreme amount of spreading, both antennas will operate below the 25.218 Mask

# CONFORMANCE TO MASK

